THE RAW SEWAGE OVERFLOW COMMUNITY RIGHT-TO-KNOW ACT

(110–78)

HEARING

BEFORE THE

SUBCOMMITTEE ON
WATER RESOURCES AND ENVIRONMENT

OF THE

COMMITTEE ON
TRANSPORTATION AND
INFRASTRUCTURE
HOUSE OF REPRESENTATIVES

ONE HUNDRED TENTH CONGRESS

FIRST SESSION

OCTOBER 16, 2007

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October 12, 2007

SUMMARY OF SUBJECT MATTER

TO: Members of the Subcommittee on Water Resources and Environment

FROM: Subcommittee on Water Resources and Environment Staff

SUBJECT: Hearing on the Raw Sewage Overflow Community Right-to-Know Act

PURPOSE OF HEARING

The Subcommittee on Water Resources and Environment is scheduled to meet on October 16, 2007 at 2:00 p.m., to receive testimony on the issue of public notification of sewer overflows. The Subcommittee will hear from representatives of the Environmental Protection Agency, State and local governments, public health officials, and other stakeholders.

BACKGROUND

Municipal wastewater collection systems collect domestic sewage and other wastewater from homes and other buildings and convey it to wastewater treatment plants for proper treatment and disposal. These collection systems and treatment facilities are an extensive, valuable, and complex part of the nation's infrastructure. The collection and treatment of domestic sewage and other wastewater is vital to the nation's economic and public health and the protection of the environment.

Two types of public sewer systems predominate in the United States – combined sewer systems and separate sanitary sewer systems. Combined sewer systems utilize a joint-conveyance for the movement of wastewater (e.g., domestic sewage) and storm water to wastewater treatment facilities. Separate sanitary sewer systems have individual (separated) conveyances for the movement of domestic sewage and for storm water.

Combined Sewer Systems:

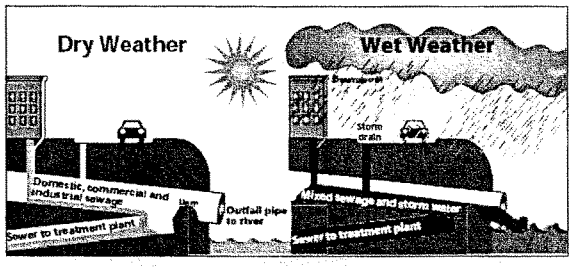
Combined sewer systems were among the earliest sewer systems constructed in the United States, and were built until the first part of the 20th Century. During wet weather events (e.g., rainfall or snowmelt), the combined volume of wastewater and storm water runoff entering a combined sewer system often exceeds its conveyance capacity. To prevent damage to the infrastructure during wet weather events, combined sewer systems were intentionally designed to flow directly to surface waters when their capacity is exceeded, discharging large volumes of untreated or partially treated sewage wastes – an estimated 850 billion gallons annually – directly into local waters. These discharges are called combined sewer overflows, or CSOs.

CSOs are point source discharges, and are prohibited under the Clean Water Act unless authorized by a National Pollutant Discharge Elimination System ("NPDES") permit. Section 402(q) of the Clean Water Act requires that any permit issued for the discharge from a combined sewer system conform to the Combined Sewer Overflow Control Policy, dated April 1994, including the implementation of the nine minimum controls and the development of a long-term CSO control plan.

Figure 1.1

Typical Combined Sewer Overflow Structure

Combined sewer systems are designed to overflow directly to surface water bodies such as lakes, rivers, estuaries, and coastal waters during wet weather, when wastewater flows exceed the capacity of the sewer system or treatment plant.



Source: EPA Report to Congress on the Impacts and Control of CSOs and SSOs

Combined sewers are found in 33 States across the U.S. and the District of Columbia. The majority of combined sewers are located in communities in the Northeast or Great Lakes regions – where much of the oldest water infrastructure in the nation is found. However, combined sewer overflows have also occurred in the western United States, including the States of Washington, Oregon, and California. To eliminate combined sewer overflows, communities often must redesign their sewer systems to separate sewage flows from stormwater flows or provide significant additional capacity to eliminate the possibility that combined flows will exceed the limits of the infrastructure.

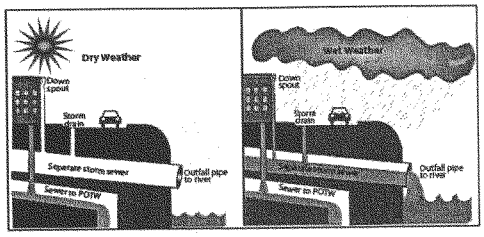
Sanitary Sewer Systems:

Since the first part of the 20th Century, municipalities in the United States have generally constructed separate sanitary and storm water sewer systems. Sanitary sewer systems are specifically designed to carry domestic sewage flows and storm water runoff from precipitation events through different conveyances.

Figure 2.2

Typical Separate Sanitary and Storm Sewer Systems

Sanitary sewer systems are designed to collect and convey wastewater mixed with limited amounts of infiltration and inflow to a treatment plant. A separate storm sewer system is used in many areas to collect and convey storm water runoff directly to surface waterbodies.



Source: EPA Report to Congress on the Impacts and Control of CSOs and SSOs

While sanitary sewer systems are designed to be separate sewage from storm water sewers, sewer overflows still may occur. These untreated or partially treated discharges from sanitary sewer systems are commonly referred to as sanitary sewer overflows, or SSOs.[1] SSOs have a variety of causes including sewer line blockages, line breaks, or sewer defects that allow excess storm water and groundwater to infiltrate and overload the system (also called infiltration and inflow), lapses in sewer operation and maintenance, inadequate sewer design and construction, power failures, and vandalism.

Unlike CSOs, which are typically designed with a specific outfall for overflows, SSOs can occur at any point in a separate sewer system and during dry or wet weather. EPA estimates that 72 percent of all SSOs reach the waters of the United States, but SSOs also include overflows out of manholes and onto city streets, sidewalks, and other terrestrial locations, including backups in buildings and private residences.[2] When sewage backups are caused by problems in the publicly-owned portion of a sanitary sewer system, they are considered SSOs.

EPA estimates that between 23,000 and 75,000 SSOs occur per year in the United States, discharging a total volume of three to 10 billion gallons per year.[3] Individual SSOs can range in volume from one gallon to millions of gallons. The majority of SSO events are caused by sewer blockages that can occur at any time, but the majority of SSO volume appears to be related to events caused by wet weather events and excessive inflow and infiltration.

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[1] The Environmental Protection Agency defines an SSO as an untreated or partially treated sewage release from a separate sewer system.

[2] SSOs that reach the waters of the United States are point source discharges within the definition of the Clean Water Act, and like other point source dischargers, are prohibited unless authorized by a National Pollutant Discharge Elimination System (NPDES) permit. Moreover, SSOs, including those that do not reach the waters of the United States, may be indicative of improper operation and maintenance of the sewer system, and thus may violate NPDES conditions.

[3] According to EPA, this estimate does not account for discharges occurring after the headworks of the treatment plant or backups into buildings caused by problems in the publicly-owned portion of a sanitary sewer system, both of which would increase the annual total volume of SSOs.

IMPACTS OF SEWER OVERFLOWS

Sewer overflows, whether from combined sewer systems or sanitary sewer systems, can pose significant environmental impacts, as well as cause or contribute to human health impacts.

According to its 2000 National Water Quality Inventory Report, EPA has determined that three pollutants are most often associated with impaired waters[4] in the United States – solids, pathogens, and nutrients. All three pollutants are contained in CSO and SSO discharges. Therefore, according to EPA, at a minimum, CSOs and SSOs contribute to the loadings of these pollutants in the receiving waters where they occur. Although EPA was not able to quantify a direct relationship in every state, in those states where EPA could identify an assessed segment of a particular waterbody located within one mile downstream of a CSO outfall, 75 percent of there waterbodies were listed as impaired.[5]

States have identified CSOs and SSOs as the direct or a contributing cause of documented environmental impacts, including aquatic life impairments, fish kills, shellfish bed closures, and continuing discharges of toxic chemicals, such as polychlorinated biphenyls ("PCBs") and other priority pollutants.

In addition, CSOs and SSOs often contain microbial pathogens (e.g., bacteria, viruses, and parasites) that cause or contribute to human health impacts, including vomiting, diarrhea, respiratory infections, fever, and, in rare cases, death. Although the potential for human exposure can come in many forms, EPA and public drinking water agencies have expressed specific concern about the potential for direct contamination of public drinking water sources from sewer overflows.[6]

For example, in the spring of 1993, more than 400,000 people in the City of Milwaukee, Wisconsin, were infected by a microscopic parasite, *cryptosporidium parvum*, that entered the public drinking water supply for the city. This outbreak resulted in more than 100 deaths. Although the exact source of the parasite was not discovered, studies suggest that untreated wastewater leaks in the Milwaukee area may have discharged the parasite to Lake Michigan, which serves as the primary drinking water source for the metropolitan region.[7] Although impacts as large as the Milwaukee *cryptosporidium* outbreak are rare, similar parasitic outbreaks have contaminated drinking water sources in other U.S. cities, such as Brushy Creek, Texas (1998), Island Park, Idaho (1995), Las Vegas, Nevada (1993), Cabool, Missouri (1990), and Braun Station, Texas (1985).

Finally, EPA estimates that CSOs and SSOs cause between 3,448 and 5,576 individual cases of illness annually from direct exposure to pollutants at the nation's recognized recreational beaches. However, EPA believes that this range under-represents the likely number of annual illnesses attributable to CSO and SSO contamination of recreational beaches, and that a significant number

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[4] Under the Clean Water Act, a waterbody is "impaired" if it fails to meet water quality standards for a particular use for the water (e.g. drinking, fishing, recreation). EPA includes the following sub-categories of waterbodies in its National Water Quality Inventory Report: rivers and streams; lakes, reservoirs, and ponds; estuaries and bays; ocean shoreline; and Great Lakes shoreline.

[5] EPA was only able to complete this analysis for 19 of the 32 states with active CSO permits.

[6] EPA has identified 59 CSO outfalls in seven states located within one mile upstream of a drinking water intake.

[7] EPA Report to Congress on the Impacts and Control of CSOs and SSOs (2004).

of additional illnesses not captured in this range occur for exposed swimmers at inland and other coastal beaches.[8]

PUBLIC NOTIFICATION

The most reliable way to prevent human illness from waterborne diseases and pathogens is to eliminate the potential for human exposure to the discharge of pollutants from CSOs and SSOs. This can occur either through the elimination of the discharge, or, in the event that a release does occur, to minimize the potential human contact to pollutants. Currently, Federal law does not provide uniform, national standards for public notification of combined and sanitary sewer overflows. Currently, public notification of sewer overflows is governed by a variety of Federal regulations, state laws, and local initiatives aimed at limiting human exposure to discharges.

Potential human exposure to the pollutants found in sewer overflows can occur through several pathways. According to EPA, the most common pathways include direct contact with waters receiving CSO or SSO discharges, drinking water contaminated by sewer discharges, and consuming or handling contaminated fish or shellfish. However, humans are also at risk of direct exposure to sewer overflows, including sewer backups into residential buildings, city streets, and sidewalks.

The cost of eliminating CSOs and SSOs throughout the nation is staggering. In its most recent Clean Water Needs Survey (2000), EPA estimated the future capital needs to address existing CSOs at $50.6 billion. In addition, EPA estimates that it would require an additional $88.5 billion in capital improvements to reduce the frequency of SSOs caused by wet weather and other conditions (e.g., blockages, line breaks, and mechanical/power failures).

In the 110th Congress, the Committee on Transportation and Infrastructure has approved two bills – H.R. 720, the Water Quality Financing Act and H.R. 569, the Water Quality Investment Act – to reauthorize appropriations for the construction, repair, and rehabilitation of wastewater infrastructure. H.R. 720 authorizes appropriations of $14 billion over four years for the Clean Water State Revolving Fund, which is the primary source of Federal funds for wastewater infrastructure. H.R. 569 authorizes appropriations of $1.7 billion of Federal grants over five years to address combined sewers and sanitary sewers. The House of Representatives passed both bills in March 2007. To date, the Senate has not taken action on the bills.

However, in the event that a release does occur, the most effective way to prevent illness is to provide timely and adequate public notice to minimize human exposure to pollutants.

Although, public notification of sewer overflows is not uniformly required, some Federal statutes do provide specific requirements for the timely public notification of potential human health risks from waterborne contaminants.

For example, section 1414 of the Safe Drinking Water Act requires public water systems to notify the persons served by the system of any failure to comply with applicable Federal or State drinking water standards, the existence of any drinking water variance to safe drinking water standards, and the presence of any "unregulated contaminants" that pose a public health threat. The Act also requires public water systems to implement notification procedures to ensure that any

[8] EPA Report to Congress on the Impacts and Control of CSOs and SSOs (2004).

violation of a drinking water standard with potential serious adverse effects on human health be made public as soon as practicable, but not later than 24 hours after the violation. Finally, the Act requires public water systems to provide written notice and annual reports to Federal and State agencies, as well as to the public.

Similarly, section 406 of the Clean Water Act authorizes funding for State and local governments to implement coastal recreational water quality monitoring and notification programs. This authority, enacted as part of the Beaches Environmental Assessment and Coastal Health ("BEACH") Act of 2000, requires, as a Federal grant condition, that State and local governments identify measures for the prompt communication of contamination of coastal water quality, as well as measures for the posting of appropriate public notice (e.g., beach signs) that the coastal waters fail to meet water quality standards.

Typically, the presence of waterborne contaminants in drinking water and surface waters utilized for recreation is detected through direct water quality sampling or national reports of waterborne illness outbreaks, coordinated through the Centers for Disease Control and Prevention's National Center for Infectious Diseases. The likelihood for detection of potential waterborne contaminants in drinking water and recreational waters would dramatically increase if local governmental officials and the public were provided with direct notification in the event of a sewer overflow, rather than waiting for the results of local water sampling or epidemiological studies.

Over the past decade, EPA has taken several administrative steps to encourage local governmental agencies, including sewerage agencies, to report sewer overflows to Federal and State agencies and the public.

In April 1994, EPA issued the Combined Sewer Overflow Control Policy – a national framework for control of CSOs through the Clean Water Act's permitting program. This policy requires owners and operators of combined sewer systems to implement minimum technology-based controls ("nine minimum controls") that can reduce the prevalence and impacts of CSOs without significant engineering studies or major construction. These controls include a requirement for the public disclosure of CSOs. The policy does not require any particular methodology for notification, but identifies potential methods, including posting appropriate notices in affected use areas or public places, newspaper, radio, or television news programs, and direct mail contact for affected residents. The requirements of the control policy are limited to CSOs.[9]

For SSOs, there is no Federal requirement for public notification. However, in January 2001, EPA issued a draft SSO rule that would have implemented a program for reporting, public notification, and recordkeeping for sanitary sewer systems and SSOs. This draft rule would have required owners and operators of sanitary sewer systems to develop an overflow emergency plan describing how the owner/operator would immediately notify the public, public health agencies, and other similar entities (e.g., drinking water suppliers and beach monitoring authorities), of overflows that may imminently and substantially endanger human health. In addition, the draft SSO rule would have required owners/operators to provide the appropriate Federal or State agencies with

[9] In 2001, the Clean Water Act was amended to require that permits for combined sewer systems conform to the Combined Sewer Overflow Control Policy. Section 402(q) of the Clean Water Act requires that each permit issued for a discharge from a municipal combined sewer system conform to the Combined Sewer Overflow Control Policy. This was included as part of the Consolidated Appropriations Act, 2001 (Pub. L. 106-554).

information on the magnitude, duration, and suspected cause of the overflow, as well as actions necessary to avoid future overflows. EPA's draft SSO rule not finalized, but was withdrawn. No additional regulatory proposals for public notification of SSOs have been issued.

LEGISLATIVE PROPOSAL

On May 23, 2007, Representative Timothy Bishop introduced H.R. 2452, the Raw Sewage Overflow Community Right-to-Know Act. This legislation amends the Clean Water Act, to provide a uniform, national standard for public notification of both combined sewer overflows and sanitary sewer overflows.

H.R. 2452 requires owners and operators of publicly owned treatment works to provide timely notification to Federal and State agencies, public health officials, and the public of sewer overflows. Specifically, this legislation requires municipalities, as part of their Clean Water permit, to develop and implement methodologies or technologies to alert the treatment works in the event of a sewer overflow, to notify the public in any area where the overflow has the potential to affect public health, to immediately notify public health authorities and other affected entities (including public water systems) of overflows that may imminently and substantially endanger human health, and to provide the appropriate Federal and State agencies with information on the magnitude, duration, and suspected cause of the overflow, as well as actions necessary to avoid future overflows.

Finally, this legislation authorizes funds from the Clean Water State Revolving Fund to be used to monitor, report, and notify the public of combined and sanitary sewer overflows.

HEARING ON THE RAW SEWAGE OVERFLOW COMMUNITY RIGHT-TO-KNOW ACT

Tuesday, October 16, 2007

HOUSE OF REPRESENTATIVES,
COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE,
SUBCOMMITTEE ON WATER RESOURCES AND ENVIRONMENT,
Washington, DC.

The Subcommittee met, pursuant to call, at 2:40 p.m., in Room 2167, Rayburn House Office Building, Hon. Timothy H. Bishop [Member of the Subcommittee] Presiding.

Mr. BISHOP. The Committee will come to order. Today the Subcommittee will hold a hearing on the importance of public notification of sewer overflows such as those provided in the Raw Sewage Overflow Community Right-to-Know Act.

Open notification of sewer overflows is an important topic that has not received the attention it rightly deserves. I would agree with the suggestions of our witness from the Milwaukee Metropolitan Sewerage District that the best way to avoid human health and environmental concerns for the sewer overflows is to ensure that they never occur in the first place.

I am proud that the first Subcommittee markup of the new majority was to approve legislation to restore the Federal commitment to our Nation's wastewater infrastructure. With documented needs of between $300 to $500 billion for wastewater infrastructure improvements nationwide, the cost of repairing and replacing our Nation's infrastructure is daunting and will not be successful without increased Federal support.

It should come as no surprise that reauthorization of the Clean Water State Revolving Fund is one of this Committee's highest priorities. However, that is only half the story because even with significant increases in investment sewer overflows will likely continue to occur. Therefore, it is equally imperative that we provide our citizens with comprehensive and timely notification of sewer overflows.

The Environmental Protection Agency's own numbers on annual sewer overflows are staggering. For combined sewer systems, EPA estimates 850 billion gallons of raw or partially treated sewage is discharged annually into local waters. For separate sanitary sewer systems, EPA estimates that between 23,000 and 75,000 SSOs occur per year in the United States, discharging a total volume of 3 to 10 billion gallons per year.

These discharges, laden with potentially harmful chemicals, pathogens, viruses and bacteria, often wind up in local rivers and streams, city streets, parks or, in unfortunate cases, directly into

people's homes. We need to make sure that the public is aware of sewer overflows to give individuals the opportunity to stay out of harm's way. It makes no sense for certain owners and operators of local sewage agencies to know where and when overflows are occurring but to avoid making this information readily available to the public. This defies common sense.

I was pleased to read the testimony of three of our witnesses here this afternoon which discuss their individual State and local governmental experiences providing enhanced public notification of sewer overflows. As these witnesses will later describe, enhanced public notification of sewer overflows is a common sense measure to protect public health and the environment, that one can be achieved without a significant burden to State and local governments.

Notification of sewer overflows provides the public the greatest opportunity to avoid direct contact with potentially harmful chemicals, pathogens, viruses and bacteria as well as facilitates rapid response to overflows in order to minimize the potential harm to the environment.

We need to replicate these success stories across the Nation. This is the premise behind the common sense legislation that I, Mr. LoBiondo and many of my Committee colleagues have introduced and hopefully something that we can unanimously approve through this Subcommittee in the near future.

I am pleased now to yield to my colleague, Mr. LoBiondo, the cosponsor of our bill for his opening statement

Mr. LOBIONDO. Thank you, Congressman Bishop. And I would like to repeat my thanks once again for you allowing me to join in with you in sponsoring this very important legislation.

Earlier this year there were about 250,000 gallons of partially treated sewage that leaked from the Asbury Park, New Jersey sewage treatment plant into the Atlantic Ocean, threatening beach goers for miles downstream, or down the shore as we would say. It was a result of a broken pipe that went undetected for over 6 hours. Fortunately no one got sick and the environment did not suffer any long-term consequences, but that is not always the case.

Congressman Bishop, as you just mentioned in your opening statement, the EPA estimates approximately 850 to 900 billion gallons of untreated sewage enter our waterways each year, sickening nearly 3.5 million people annually. The bacteria, parasites and other microorganisms in sewage can cause very serious and lasting disease and have in some cases even caused death for those who unknowingly came in contact with it. Over 700 combined sewer overflow systems and other aging sewer infrastructures are the primary culprit.

Fortunately, we passed legislation through the House that provides billions in grants and loans and guarantees to help rebuild these systems over the next decade. But something needs to be done in the short term. That is why I was especially pleased to join with you, Congressman Bishop, to introduce the H.R. 2452, the Raw Sewage Overflow Community Right-to-Know Act. It is a common-sense piece of legislation that will keep the public safe from waterborne illnesses, requiring sewer operators to put into place

monitoring systems that detect overflows and to promptly notify the public.

While some State and localities have strong notification programs in place, the majority do not. Establishing a minimum Federal standard is the right thing to do. I look forward to working with all of my colleagues to have this be a reality, and once again thank you for holding this hearing.

Mr. BISHOP. Thank you very much, Mr. LoBiondo. Since we are late in getting started and some of our witnesses have travel commitments, I am going to ask my colleagues on both sides of the aisle to refrain from making opening statements and submit their comments for the record. I also ask unanimous consent to include in the hearing record a statement from the American Waterworks Association and a statement from the California Association of Sanitation Agencies.

Without objection, so ordered.

We will now proceed to our first of two panels. Panel I is comprised of the Honorable Benjamin H. Grumbles, a frequent visitor to our Committee. He is the Assistant Administrator for Office of Water, Environmental Protection Agency. Dr. Robert Summers, who is the Deputy Secretary of the Maryland Department of the Environment. And Mr. Stuart Whitford, who is the Water Quality Program Manager for Kitsap County Health District in Bremerton, Washington.

Mr. Grumbles, we will begin with you and, as always, we will accept your full comments for the record. We would ask you to limit your testimony to 5 minutes.

TESTIMONY OF THE HON. BENJAMIN H. GRUMBLES, ASSISTANT ADMINISTRATOR FOR OFFICE OF WATER, UNITED STATES ENVIRONMENTAL PROTECTION AGENCY; DR. ROBERT SUMMERS, DEPUTY SECRETARY, MARYLAND DEPARTMENT OF THE ENVIRONMENT; AND STUART S. WHITFORD, R.S., WATER QUALITY PROGRAM MANAGER, KITSAP COUNTY HEALTH DISTRICT, BREMERTON, WASHINGTON

Mr. GRUMBLES. Thank you, Mr. Chairman, Members of the Subcommittee. It is an honor to appear before you on behalf of EPA to testify on an extremely important and challenging subject. And that is the goal we all share, and that is to eliminate or reduce the number of sewer overflows, to increase reporting and recordkeeping and public notification.

So, Mr. Chairman, I commend you and your colleagues for getting this discussion going, to drawing attention to the subject, having the proposed legislation, and giving us all a chance to look for ways to advance the ball forward on increased reporting, recordkeeping and public notification.

I would like to emphasize a couple things. One is the critical importance of prevention, taking steps, investing in infrastructure, managing those assets wisely to reduce the possibility of overflows, leaks and spills in the first place, but when they do happen, to follow up with strong regulatory consequences through permitting programs and enforcement. And then, thirdly, to emphasize the growing importance of green infrastructure, relying on not just the gray infrastructure, the concrete, the bricks and the mortar, but

the wetlands, the stream buffers, the vegetation in the watershed to help reduce storm water pollution problems and sewer overflows.

Your legislation emphasizes the importance of recordkeeping, public notification and reporting. We, too, at EPA share these goals. When it comes to CSOs, we issued a CSO policy. Congress codified it, so it is now in the Act, at section 402(q), and it requires for CSOs public notification and reporting.

We also have, when it comes to SSOs, we have a regulatory framework under the existing Clean Water Act programs that emphasize the importance of reporting and recordkeeping to the permitting authorities. A very important step the agency took in August of this year was to issue a draft guidance document, a fact sheet for sanitary sewer overflows which embraces the concepts that you, too, are embracing and provides specific guidance to permit writers to ensure that there is immediate reporting and public notification when it comes to sanitary sewer overflows.

As you and your colleagues have pointed out, this is a significant issue locally and nationally, given the number of combined sewer overflows and the number of sanitary sewer overflows and the potential public health risk and environmental impact. So the draft policy fact sheet that we issued in August is an important supplement to provide permit writers with more tools to work at the local level to increase public notification, recordkeeping and reporting.

Mr. Chairman, I think a very laudable aspect of your legislation is that it understands and recognizes that in order to increase investment in infrastructure and pollution prevention there needs to be an emphasis put on public notification and reporting and recordkeeping. We have an existing regulatory framework and policies that we are looking at. And Mr. Chairman, we will commit to work with you and your colleagues as you continue to consider legislation amendments to the Clean Water Act. We will gladly work with you to find ways that are cost effective, that put a premium on increased reporting, recordkeeping and public notification.

I also want to emphasize another important component of the EPA strategy when it comes to sewer overflows, and that is enforcement. We all recognize that working together, establishing common management frameworks, as we did earlier this year with national utilities on maintenance and operation of their facilities, but we all recognize that there are times when overflows, spills, leaks occur and there should be regulatory consequences. Our enforcement program at the agency has put this as one of its top priorities over the last decade.

Wet weather overflow events is an enforcement priority. The agency has entered into over 50 judicial settlement agreements and orders. It represents, I counted up, over $13 billion in long-term investments by communities across the country in infrastructure systems. And I can assure you that as you work on public notification and other aspects of the sewer overflow challenge we will continue to put a priority on enforcement when the law is violated. And that is an important statement to make as the Clean Water Act is celebrating its 35th anniversary supplementing public notification and pollution prevention with strong enforcement. And that is entirely appropriate when we are talking about raw sewer overflows or combined sewer overflows.

Mr. Chairman, thank you for the opportunity to testify. I look forward to answering questions.

Mr. BISHOP. Thank you very much, Mr. Grumbles. Dr. Summers.

Mr. SUMMERS. Thank you very much. It is an honor to be here today. Thank you for asking me to testify about Maryland's experience with this overflow reporting. I commend the opening remarks. I think in Maryland we agree with everything that has been said so far regarding this very critical issue.

I am the Deputy Secretary of the Department of Environment, but I have worked for the Department of Environment for 25 years on the Chesapeake Bay restoration, most recently, for the last 7 years as the Director of the Water Management Administration. So I have direct—I had direct responsibility for this particular issue within Maryland.

Of course, overflows are a very significant public health and environmental concern. We have heard about the various pathogens that cause public health issues. But in Maryland we are particularly concerned with the Chesapeake Bay. And there are a number of different constituents that also impact our water quality. These significant impacts, obviously contamination of drinking water supply is a very critical issue. There are large areas in Maryland where there are impairments due to bacterial contamination, and this is affecting some drinking water supplies. We have closures of fishing and swimming, beach closures and so forth, fish kills, overall water quality degradation. A very important issue in an area like Baltimore City, the spills impact our parks and playgrounds and other public use areas which are located near streams.

The benefits of reporting and public notification we have already heard a little bit about. They certainly protect the public from contact with the impaired waters, ensure that local health officials are aware and are dealing with the issues. It decreases inquiries from the media and the public. We found that proactive reporting actually has been a tremendous benefit to our local governments and other owners and operators of sewage systems.

It has already been mentioned it builds public support for infrastructure improvements. Maryland is the host to several of the orders that Mr. Grumbles just mentioned. Baltimore City, Washington Suburban Sanitary Commission, Baltimore County, we have very significant infrastructure expenditures that need to be made. The reporting increases the likelihood of timely response by the owners and it improves the analysis of the cause of the problem and leads to more rapid repairs and fixing of whatever the particular issue might be, which definitely gives a capital cost benefit to the local government involved.

In Maryland we began requiring reporting as of October 2000 with a directive from the Director of Water Management Administration. That same year the Governor appointed a task force in upgrading sewer systems to look at the cost in financing of the necessary repairs. Of course that is a huge future issue and we strongly support the increases in Federal funding for the State Revolving Loan Fund and other programs to assist State and local governments with this critical issue.

But public education is also a critical component because none of these improvements can be made without payments by the local

governments generally requiring rate increases. And we found that the public notification, the public education definitely helps in that area.

This was followed with specific legislation in 2001 and we have very detailed regulations as to the implementation of these requirements. Since the inception of recordkeeping in 2001 over 11,000 reports of spills, 2.7 billion gallons, the figures show how the breakdown between combined sewer overflows and sanitary sewer overflows look. This is around 380 million gallons a year of spilt sewage in Maryland.

This graphic just shows our historical data on this issue. You will notice the peak discharges in 2003, 2004 and 2005. And it is tailing off in 2006 and 2007. I would like to say this is because we have got our systems repaired, but the fact is it is wet weather related. We had very wet years in 2003 and 2004, and I think what we are seeing here is a ramping up of reporting capability and the tailing off due to dry weather. And you can see a similar pattern for sanitary sewer overflows.

Making this information available to the public is absolutely critical and we have all of these reports posted on the Web and certainly appreciate the opportunity to tell you a little bit about it. I can say with great certainty that local officials, local public works directors are very supportive of this effort. In fact, the Director of the Bureau of Wastewater in Baltimore City, which is under a consent decree and is in the process of spending over $900 million to repair their system, says that this has been extremely beneficial to the city's efforts to make the necessary improvements to their system.

Thank you.

Mr. BISHOP. Thank you very much, Dr. Summers. We have a vote on right now. There is about 10 minutes left in that vote. And that will be followed by two others. So Mr. Whitford, we will go to you now. If you could complete your testimony within the 5 minutes. And then we will go to vote, and then we will reconvene as soon as we are done voting.

So Mr. Whitford.

Mr. WHITFORD. Good afternoon. My name is Stuart Whitford. I am the Water Quality Program Manager in Kitsap County. Kitsap County is a peninsula due west of Seattle, in case you guys don't know where that is. A very beautiful area surrounded by about 220 miles of marine shoreline, 28 lakes or so, probably 58 perennial streams. So we are very interested in protecting those resources from spills, and we have been doing a pretty good job of that since 1992.

Since 1992, the Health District and wastewater utilities in Kitsap County have been cooperatively implementing sewage spill reporting and response procedures. The purpose of these procedures is to prevent public exposure to sewage spills through public information and notification. This is extremely critical in Kitsap County, given the miles of shoreline we have and approximately 44,000 recreational shellfish harvesters that we have on our beaches year-round.

Since 1992, 208 sewage spills have been reported to us, to me, totaling about 11 million, 11.3 million gallons of raw sewage and

about a half a billion or over a half a billion of combined sewer overflows. That is a staggering amount of sewage that has been discharged through our local surface waters.

The procedures that we have require that wastewater utilities immediately notify the districts when a sewage spill or combined sewer overflow occurs. It also requires the utility to notify property owners in the immediate vicinity of the spill, post a warning sign at the spill site and clean-up to the maximum extent possible.

The Health District visits the site typically within 1 to 8 hours to verify the information supplied, verify that the clean-up was done correctly and assess the need for additional public notification. This public notification may include additional door-to-door work that we do, and we have done that in the past quite a bit when we need to get to people right up front.

We will also post warning signs throughout the affected area and issue advisories. Advisories are issued either by a press release or by a press release updating Internet home page, and we also have a water quality hotline that we update on a regular basis. If we have a commercial shellfish growing area present, we notify the State Department of Health immediately through a pager system if it is after hours.

A recent sewage spill in Kitsap County highlights the need for this bill. At 1:30 p.m. on June 27, 2007, the City of Port Orchard reported a sewage spill to the district. They reported that a small spill occurred when a gravity main plugged, forcing sewage out of a manhole onto the surface of the ground. The area was fairly overgrown with vegetation so it appeared to city personnel that the spill was relatively small. Personnel proceeded to remove the plug and they applied lime in the immediate vicinity of that spill to control odors, soak up the remaining liquid and inactivate any pathogens that might be there. As we always do, we visited the site that afternoon and verified that the main had been restored to service and the immediate area had been cleaned up.

However, our inspector observed a fairly steep drop-off just below the manhole and decided to push further into the brush, just to make sure that no sewage had made it down the hill. What he saw was shocking—a 15-foot wide swath of gray slime oozing down the hill with all the vegetation and trees standing lifeless. Unable to continue from up there he decided to get down below the area. He found a dirt access road downslope from the main that led to a city sewer pump station, private pond and wetlands. As he approached the stormwater pond the smell of sewage overcame him, and he called me on the phone and told me so. When he reached the perimeter fence he could see that the entire pond was filled with sewage. This pond was approximately 100 feet long by 50 feet wide and probably between 15 and 20 feet deep. When he reached the perimeter fence he could see that the entire pond was filled and every tree and shrub on its bank was dead. Looking up the hill just above the pond, you could see the swath of sewage that was the source of the spill.

We immediately notified the City of Port Orchard and the State Department of Ecology. They responded and the city came out and pumped out the pond, the entire contents into the nearby sewer pump station.

The next step was analyzing how did this occur. We received the pump run-time data for the downgrading pump station and reviewed it ourselves. The reason we did it ourselves is the sewer utility didn't know how. The city had been collecting this on a daily basis for years. They visit the pump station and read the meters right there on the pump. Through this effort we determined the spill had actually started 2 years previous, on June 12, 2005. Since that date approximately 6,500 gallons of sewage per day have been discharging to the stormwater pond and nearby wetlands. This means a total of 4.8 million gallons of sewage had been spilled.

If the city had an alert system in place, as required by this bill, the impacts of this spill on the environment and the city Health District response cost could have been significantly mitigated. This is why we stand here today in support of this bill. We believe it will be a win for public health in the environment and in the long term save taxpayer money.

Mr. BISHOP. Thank you very much. We will now adjourn to go vote, and we will reconvene with questions for our first panel as soon as the series of votes are over. There is about three votes, so it will probably be at least 20 minutes or 25 minutes before we are all back. Thank you very much.

[Recess.]

Mr. BISHOP. [Presiding.] The Subcommittee will come to order.

Mr. Grumbles, if I may start with you, you indicated in your remarks that you talked about the critical importance of prevention, and we know that prevention is related to lots of things, but perhaps, most importantly, it is related to capital expenditures for infrastructure, upgrades and expansion. Yet, as you know, we have cut in this administration the funding for the State Clean Water Revolving Fund by about 50 percent, which clearly impacts on our ability to deal with needed upgrades and to cut into the multi-hundred-billion-dollar backlog of unmet need in terms of infrastructure. And I understand that that is a decision that is taken by the administration and not necessarily by the EPA.

Given that, I was, I guess, surprised to see the comment in your testimony that you did not believe that Revolving Fund money should be used for the monitoring and used for the public notification, because that would reduce the amounts of funding available for infrastructure upgrades. So I guess my logic is that if we are not going to do the upgrades, therefore we are going to have a hard time dealing with the prevention part of the puzzle.

Our next best hope is to deal with public notification and to deal with monitoring. If Federal funds cannot be used for that, are we going to be able to make the advances that we need to make in that area, recognizing that we have not made the advances we need to make in infrastructure upgrade?

Mr. GRUMBLES. Mr. Chairman, I appreciate the question and your comments on the position of eligible uses of the State Revolving Fund.

Our position, quite simply, is the State Revolving Fund should be flexible to take into account the many different types of capital infrastructure needs, water quality needs of communities and States. Really for us it is a question of O&M versus capital investment, and what we are saying is, essentially, that provision in the

bill takes a significant departure from current practice and law by making eligible something that arguably is really O&M when it comes to monitoring and notification.

The SRF is a critically important tool for infrastructure and for funding. It is not the only tool. Permit fees, other clean water funding mechanisms, revenues from ratepayers who understand the importance of infrastructure, I think, are important sources for increased monitoring and reporting and recordkeeping as well. So that is really the position we are taking on that piece of the bill.

Mr. BISHOP. I thank you for that, and that response leads me to a question I wanted to ask Dr. Summers.

Dr. Summers, one of the goals that Congressman LoBiondo and I have in this legislation is that, by virtue of increased monitoring and increased public notification, we would build public awareness for the needs of our infrastructure, and that, therefore, there would be a greater tolerance for funding necessary improvements to those needs.

My question to you is how has the notification and the reporting guidelines that are currently in existence in Maryland—to what extent has that influenced political support for the so-called ″flush tax″ in the State?

Mr. SUMMERS. Well, first of all, the flush tax is focused on upgrading sewage treatment plants, not the pipes bringing the sewage to the plants, but the reporting has certainly focused a lot of public attention and a lot of legislative interest on this issue virtually every year since we instituted this.

We have been asked to provide briefings to our legislature. Maryland has capital funding which is directed towards the repair of failing infrastructure. It is not a huge amount of funding, but it is very hotly sought, and there is a lot of competition amongst our various jurisdictions for that. At the same time we instituted our reporting requirements, the Governor established a task force on sewage infrastructure, which also provided a report and cost estimate.

So I think the bottom line is that the educational value of this reporting has been acknowledged pretty much across the board. We found it to be extremely important. I mentioned that the director of the Bureau of Water and Wastewater in Baltimore City has been very complimentary of this effort and how it has helped the city. Likewise, in western Maryland, we have had similar comments from public works directors in Frostburg and in Cumberland. So it has been well received in that respect.

Mr. BISHOP. Thank you very much. I see my time has expired.

Congressman LoBiondo.

Mr. LOBIONDO. Thank you, Mr. Chairman.

For Mr. Grumbles, do you feel the public notification for sewer overflows is adequate?

Mr. GRUMBLES. A couple of responses.

One, I feel that this Nation continues to put a greater emphasis on public notification, and I think it is through the permits themselves. I know when it comes to existing regulations that we have under the Clean Water Act, there is no specific mention in the regulations on public notification. However, positions that the EPA has been taking in the last several years have been through policy

to include public notification in permit writers, considerations for sanitary sewer overflows. Also, the CSO policy, as it was codified by you and others in 2000, did specifically pick up public notification for combined sewer overflows.

So what we are committing to are continued and important discussions on ways to improve and to increase the amount of public notification, and one of the best and most flexible ways we can do that is through guidance and through working through with permit writers throughout the country who are issuing these permits for the various community sewer systems.

Mr. LOBIONDO. Do you think anything should be done to strengthen public reporting requirements?

Mr. GRUMBLES. Well, I think that, from an EPA standpoint, continued effort on our part is to educate permit writers—to hold workshops. We issued guidance in August specifically for that purpose of improving public notification.

Congressman, I would say we are willing and eager to review additional steps, whether it is through, you know, considering the various array of approaches to increased public notification, a possible regulatory approach through a regulation. Right now we have been focused on the policy guidance and also the enforcement program. As the enforcement office, in working with the Justice Department, enters into consent agreements or settlement agreements with communities that are violating the Clean Water Act, we do put an emphasis on increased public notification and reporting because that is a great opportunity to reassure and to get the community more invested in their sustainable infrastructure systems.

Mr. LOBIONDO. Thank you.

Dr. Summers, can you give us any rough idea of what you think it costs the State and local authorities in Maryland to implement the State's reporting system?

Mr. SUMMERS. Well, actually we have not compiled cost information from the local governments. I really do not have a lot of information in that regard. I would say that basically they have been able to incorporate this reporting and the various steps, in conjunction with the local health departments, with existing resources. There has not been a major increase in cost that has been reported to us. In fact, the reports that we have gotten are positive with the respect of it has actually benefited them by allowing them to proactively deal with citizen complaints and press reports. It has helped them in terms of getting support from their commissions or legislatures to finance the improvements to this system that are necessary; it has actually built support, but that is a question that we could certainly put to a number of our jurisdictions, if that would be useful.

Mr. LOBIONDO. I thought it might have been compiled. I certainly would not want to give any suggestion or directive to go back and to compile that, but it is just a curiosity thing.

Thank you, Mr. Chairman.

Mr. BISHOP. Thank you, Mr. LoBiondo.

I am going to exercise the discretion of the Chair and ask Mr. Whitford a question.

Obviously, Kitsap County was somewhat ahead of the curve in implementing your reporting and response procedures. Could you just tell us what kind of response you got from the local sewage agencies? Were they reluctant? If they were, have they now come around? What kind of response have you gotten from the public?

Mr. WHITFORD. The response from the wastewater utilities has been great, and trust has been built up over 15 years now, so it does take time.

When mistakes happen, the human thing to do sometimes is to try to mitigate it or to hide it, but that has gone away, you know, over the years to where now most of the reports that we get, except for the one example that I mentioned here, are accurate, that what they said happened actually did. So I would say that their participation has been great.

I would say that the public sees the press releases constantly, and we get calls of people being very upset about that, but they know that we have a program in place to kind of detect these things and to warn them, so I think they are very appreciative.

Mr. BISHOP. All right. Thank you very much.

Mr. BISHOP. That brings our panel number 1 to a close. Thank you all very much for your testimony, and we will now move to our second panel.

Thank you very much. I know, Dr. Lipp, you have a time constraint, so we will go to you first, but our second panel is comprised of Dr. Erin Lipp, who is an associate professor in the Department of Environmental Health Science at the University of Georgia; Ms. Katherine Baer, who is the director of river advocacy for American Rivers; and Mr. Kevin Shafer, who is the executive director of the Milwaukee Metropolitan Sewerage District in Milwaukee, Wisconsin.

So, Dr. Lipp, we will start with you, and we appreciate your patience. Thank you.

TESTIMONY OF ERIN K. LIPP, Ph.D., ASSOCIATE PROFESSOR, DEPARTMENT OF ENVIRONMENTAL HEALTH SCIENCE, UNIVERSITY OF GEORGIA; KATHERINE BAER, DIRECTOR, RIVER ADVOCACY, AMERICAN RIVERS, WASHINGTON, D.C.; AND KEVIN L. SHAFER, EXECUTIVE DIRECTOR, MILWAUKEE METROPOLITAN SEWERAGE DISTRICT, MILWAUKEE, WISCONSIN

Ms. LIPP. Thank you, and good afternoon, Mr. Chairman and Members of the Subcommittee.

As has already been mentioned, I am an associate professor at the College of Public Health at the University of Georgia. I am an environmental and public health microbiologist, and my research is focused in the area of water quality, microbiology and the ecology of waterborne pathogens. For the past decade I have been involved in issues associated with pathogens like bacteria and viruses in sewage in natural waters in the Southeast United States, including rivers, streams, estuaries, coastal waters, and coral reefs. I would like to highlight five main points this afternoon which relate to the issues of waterborne disease, pathogens in sewage and the contamination of our Nation's waterways.

First, the scientific literature shows abundant evidence of the role of contaminated waters as a source of infectious disease. Ac-

cording to the CDC's most recent reports, there were 62 outbreaks of disease associated with recreational water and 30 outbreaks associated with drinking water in 2003 and 2004. This affected a reported 5,400 people. However, this does not include the many sporadic cases which are not included in those reported outbreaks, and it is likely a very considerable underestimation of the actual numbers of people who became ill. Most cases of diarrhea and vomiting, which are the most common symptoms associated with waterborne diseases, are never recorded in State and Federal databases because people simply do not seek treatment or are not diagnosed.

For example, one estimate suggests that only about 2.6 percent of all cases of Salmonella or illnesses with similar mild to moderate gastrointestinal distress are ever reported. Therefore, the problem of waterborne disease is likely much greater than the current data indicate.

My second point is that sewage contains bacteria, viruses and parasites that come directly from infected people in the community. Because those infected people may excrete high numbers of these microbes while they are ill, sewage can be expected to carry high concentrations of numerous pathogenic agents. Wastewater treatment can be expected to reduce much of it. If raw sewage is released into a waterway, we are depending solely on dilution to reduce concentrations.

For many pathogens, especially protozoa like Cryptosporidium or viruses like the cruise ship virus—the norovirus—the solution to pollution is simply not dilution. As few as one cell or virus can cause disease. To give you an example, noroviruses can be detected at concentrations as high as 10 million viruses per liter, so that is about twice the size of this small bottle of water here. If a milk-carton-sized container of sewage were dumped into a body of water about the size of a typical backyard swimming pool, there would still be around 100 viruses per liter. If a person swimming swallowed as little as 2 tablespoons of this water, he would likely ingest three viruses, and only one is needed to cause disease.

My third point is that, because of lack of coordinated notification of sewer overflows and data collection during such events, we actually have relatively few studies that show a direct link between an overflow event, pathogens in the water and illness from exposure to those specific pathogens. However, there is a variety of research, studies that strongly suggest this linkage. I can give you an example from my own research.

In the summer of 1999, the city of Key West experienced significant problems with their deteriorating sewer lines. This resulted in multiple and ongoing beach closures. During that period about 300 swimmers participated in an annual race around Key West. Following this 12-mile swim, 30 percent of swimmers reported infections of the eyes, ears, nose or diarrhea. These are all symptoms consistent with exposure to sewage-associated bacteria and viruses.

In terms of drinking water, in 2002, the CDC estimated that the number one known cause of disease outbreaks from untreated groundwater or private wells was the seepage or overflow of sewage. Because our Nation's waterways and coastlines do not end at State boundaries, someone is always downstream. Therefore, Federal efforts to protect our natural water resources continue to be

a laudable and achievable goal. Including public health and agency notification of sewer spills is clearly in the spirit of the Clean Water Act goals to maintain fishable and swimmable waters.

Finally, I would like to make one last note, which is that research and regulations that support improved water quality guidelines that encompass the array of pathogens that can threaten human and ecosystem health would also allow for better management in the case of overflows or seepage of sewage. Along with public notification of sewer overflows, increased data collection on specific pathogens in our water and the surveillance of associated diseases, especially among our most vulnerable populations, are needed. To better implement strategies that effectively protect public health and our aquatic resources, we need to know what we are dealing with.

In 1996, the EPA implemented the Information Collection Rule to determine the level of specific pathogens in source water prior to treatment for drinking. This collection period provided critical baseline information on the abundance of specific pathogens and allowed treatment plants to optimize practices to best reduce these agents. A similar information collection tool for sewage would, likewise, aid both treatment plant operators to optimize for pathogens, rather than the indicator system that they currently use, and those responsible for protecting our public health by giving them the knowledge of what pathogens were probably in the sewage when an overflow occurred, applying appropriate risk-assessment models to determine risk to the overall population and to our vulnerable populations, and finally, to determine which actions could best mitigate the problems.

Thank you.

Mr. BISHOP. Thank you very much.

Dr. Lipp, so that you may catch your plane, and with the indulgence of my colleagues, we will submit our questions for you in writing, and then we would appreciate a written response. Thank you very much.

Ms. LIPP. All right.

Mr. BISHOP. Again, thank you for your patience.

Ms. LIPP. Thank you very much.

Mr. BISHOP. We will now move to Katherine Baer of American Rivers.

Ms. BAER. Good afternoon, Chairman Bishop, Ranking Member LoBiondo and Members of the Subcommittee.

My name is Katherine Baer. I am director of American Rivers Healthy Water Campaign. I appreciate the opportunity to appear before you today in support of H.R. 2452, the Raw Sewage Overflow Community Right-to-Know Act. I would also certainly like to thank you both for your leadership in introducing this important legislation.

As sewers continue to overflow or to spill on a regular basis, citizens have a basic right to know when it is unsafe to swim or to play in local waters—streams, rivers and lakes. Just as we are alerted to code red unhealthy air days or to contaminated food—as you can remember in the case of when the bagged spinach was pulled so quickly off the store shelves in 2006—we similarly have a right to know about the sewage spills that can affect our health.

I will make four brief points today in support of H.R. 2452. First, the contact with sewage is a serious public health threat that must be addressed. I think Dr. Lipp described it well. Every year many Americans and their loved ones risk serious illness, such as diarrhea and ear infections, when untreated sewage seeps into the water they use for recreation and drinking. In rare cases contact with untreated sewage can lead to more chronic conditions, including liver failure and cancer. Individuals, especially children and the elderly, become ill from contaminated recreational waters through ingestion or contact with ears, eyes, nose, and skin.

According to EPA estimates, up to 3.5 million people become ill from contact with raw sewage from sanitary sewer overflows alone each year. However, the number of illnesses caused by untreated sewage could be much higher due to underreporting. For example, a recent study found that up to 1.5 million people get gastroenteritis at two beaches in California alone each year.

My second point is that current Federal policy does not require public notification, leaving people at risk. Currently Federal public notification or right-to-know requirements for sewage are almost nonexistent. There are no requirements for public notification for sanitary sewer overflows, and compliance with the combined sewer overflow policy is highly variable, leaving people at risk.

State requirements, where they exist, are also highly variable. While some States like we have heard from today, like Maryland, and others such as Michigan, and individual cities have excellent public notification programs, many do not. For example, South Carolina, Louisiana, Tennessee, Kentucky, Virginia, and many others do not have any statewide public notification requirements at all. The bill will create a consistent Federal minimum requirement that will level the playing field to better protect all Americans.

Third, H.R. 2452 provides a straightforward, commonsense solution by requiring monitoring and notification to protect the public from sewer spills. The bill would provide an enforceable, consistent baseline, providing a safety net for everyone. H.R. 2452 requires publicly owned treatment works to use a monitoring system, technology or a management program to alert the owner or operator of an overflow.

Just as cars have ″check engine″ lights, wastewater treatment systems should also have monitoring systems to inform them of potential problems. The bill allows a system to choose from a great range of monitoring techniques currently available.

The bill also requires POTWs to notify the public when there is a sewage overflow with the potential to threaten human health so that people can avoid the risk of becoming ill. Notification must take place as soon as practicable, but not later than 24 hours after the owner or operator becomes aware of the spill. This timeliness component is, of course, important in order to really protect public health.

Fourth and finally, some cities and utilities are already doing an excellent job of notifying the public, using a variety of mechanisms, showing both that notification can be achieved, and that it is also an important part of sound management and community safety. Communities like Anne Arundel County, Maryland, and Milwaukee, Wisconsin, illustrate that strong monitoring and public no-

tification is viable. There are a variety of public notification methods that can be used separately or in combination to reach the broadest possible audience in a timely manner.

Public health agencies must also be notified when there is an imminent threat to the public. In some States and in some places like you have heard today, they are already involved in public outreach.

H.R. 2452 allows each State or community to tailor a program to best reach the local population. Notification is not intended to be one-size-fits-all, and it should be designed with the end goal of protecting public health in the most effective way possible.

In closing, knowledge is a powerful first line of defense that public notification can provide to keep us healthy while we continue to work for the solutions to reduce sewage pollution. We will continue to work hard with Members of Congress and with those in the wastewater treatment community to advocate for more funding for clean water infrastructure. In the meantime, however, public notification of sewage spills is essential so that people can protect themselves and their families from getting sick, while also galvanizing support for the solutions needed to reduce sewage pollution as mentioned by Dr. Summers in his testimony.

Finally, I would like to submit, as part of my testimony, two letters, one from the CEOs of nine environmental organizations and the other from four national public health organizations, in support of this bill, as well as American Rivers' report on the status of public notification in 11 U.S. States.

We urge the Committee to move this bill, and we are strongly in support of it. Thank you for this opportunity to testify on H.R. 2452, and I look forward to any questions you may have.

Mr. BISHOP. Thank you very much, and your additions will be made part of the record. Thank you.

Mr. Shafer.

Mr. SHAFER. Good afternoon, Chairman Bishop, Ranking Member LoBiondo and Members of the Water Resources Subcommittee.

I am Kevin Shafer, executive director of the Milwaukee Metropolitan Sewerage District, MMSD, and treasurer of the National Association of Clean Water Agencies, NACWA.

Thank you for your leadership on clean water issues. I appreciate the opportunity to testify here today on the Raw Sewage Overflow Community Right-to-Know Act of 2007. This legislation is designed to achieve an important goal: ensuring the public's right to know about events that could impact their health and their environment. It is a goal that we in the clean water community endeavor to meet every single day.

At home in Milwaukee, I, like others, have kids who thrive around our great Lake Michigan and the other area waterways. I want to know and my neighbors want to know that our children are playing in water that will not make them sick. It is of the utmost importance for us to know this, and we take this reporting challenge very seriously at the MMSD.

Before I discuss H.R. 2452 from a national perspective, I would like to tell you about how Milwaukee achieves these challenges. Fortunately, in Milwaukee, we have an extensive monitoring program that has been in place for over 10 years that we feel exceeds the H.R. 2452 requirements. In the 1980s and 1990s, Milwaukee

spent nearly $3 billion to reinforce our sewer system to protect Lake Michigan. As part of that program, we built a 19.4-mile-long, 405-million-gallon tunnel system that captures flows from both the combined sewer and separate sanitary sewer systems. Additionally, in 2006, we completed an 89-million-gallon deep tunnel that is devoted solely to separate sewage, and we are currently constructing another tunnel that will add 27 million gallons more to our regional system. These tunnels store the water until our treatment plants can treat it.

Our stewardship of the water environment is impressive. Since the first tunnel became operational in 1994, we have reduced the number of combined sewer overflows from an average of approximately 60 in 1994 to an average of 2 in 2007. We have also reduced separate sewer overflows from an average of approximately 25 in 1994 to an average of about 2 by 2007, but we do still have overflows, and we are working diligently every day to address this.

We are also continually improving our extensive monitoring and notification programs. The monitoring system that was installed in 1994 provided a regional umbrella coverage for our sewer system. Currently MMSD is upgrading this system with a $50 million, state-of-the-art technology that will help us drill down into the local system. This updated system will further help MMSD maximize the use of its wastewater storage systems and treatment plant capacity.

In Milwaukee we are protecting our citizens and the environment, and we take that seriously and strive to overreport these occurrences. What I mean by this is we notify not only our regulators, the Wisconsin Department of Natural Resources, of an overflow event as required, but we also notify the public health department, local media outlets, and scientists at the University of Wisconsin-Great Lakes WATER Institute, which uses these occurrences as opportunities to gather realtime scientific data to help us plan for our future water quality improvements.

Additionally, during a storm, even before a sewer overflow might occur, we have posted on our Web site, www.mmsd.com, a storm update page which shows in realtime the volumes of wastewater and sewage we have kept from overflowing. During these large events, the public can log onto our system and see the status every 5 minutes. If we do have an overflow in our system during very large storms, we report this immediately on our Web site. As I said earlier, we take this challenge very seriously.

Milwaukee and a few other utilities may be unique in our approach to monitoring and reporting, and from a national perspective, it is important to remember that every wastewater utility in the United States is different. Therefore, this issue should be treated as an ongoing partnership between the Federal, State and local governments because it is important on so many fronts to make sure that what is proposed actually helps solve the problem. It is critical to underscore that meeting the Clean Water Act's goals requires a sustainable partnership among all levels of government and a significant recommitment of resources from the Federal Government in particular.

Our Nation now faces serious long-term funding shortfalls to meet its vital water and wastewater infrastructure needs. Accord-

ing to EPA and other Federal agencies, the Nation faces a $300 billion to $500 billion water infrastructure funding gap over the next 20 years. It is in this context that we must consider H.R. 2452.

Sewer overflows continue to pose one of the biggest single challenges to clean water managers everywhere. The infiltration and inflow of stormwater into sewer systems is a primary cause of sanitary sewer overflows, and it is very difficult from an engineering perspective and costly to eliminate all together. Most NACWA members are already subject to detection, notification, reporting, and recordkeeping requirements imposed by EPA's part 122 regulations and the SSO facts sheet.

Communities with combined sewer systems must implement monitoring and notification programs for overflows as part of their nine minimum controls for the CSO policy adopted in 1994. Any additional Federal legislation on monitoring and reporting should acknowledge the programs that are already in place and ensure that any new programs do not interfere with existing efforts or impose duplicative, unnecessary and often costly mandates.

H.R. 2452 also states that all overflows with the potential to harm public health would trigger the notification requirements. Some NACWA members have expressed concern that even minor spills of a few gallons that can occur during the system routine maintenance of a sewer line could meet that notification.

Mr. BISHOP. Mr. Shafer, if you could wrap up, please.

Mr. SHAFER. I will.

Mr. BISHOP. Thank you.

Mr. SHAFER. Sorry.

NACWA believes that a comprehensive rather than a piecemeal approach to SSOs is needed. The EPA should promulgate SSO control regulations similar to the CSO control policy as they did in 1994. In 2001, the EPA attempted to use such a regulation that broadly addressed the management and reduction of SSOs.

Finally, to further help cities address wet weather and other critical clean water infrastructure challenges, Congress should establish a sustainable, national clean water trust fund.

As we approach the 35th anniversary of the Clean Water Act, it is vital that we recall that success so far has been achieved through a Federal, State and local partnership. We look forward to working with you to ensure its continued progress and in improving the health of our Nation's waters, and I look forward to answering your questions.

Thank you.

Mr. BISHOP. Thank you very much.

My first question is for both Ms. Baer and Mr. Shafer.

Ms. Baer, you have testified that H.R. 2452 is designed to allow each State or community to tailor its own program to meet the specific needs of their individual communities so as to avoid a one-size-fits-all approach, which is precisely what Mr. LoBiondo and I had in mind when we worked on the bill.

Mr. Shafer, you have described the very same legislation as a one-size-fits-all approach.

So we obviously have a conflict here, and I would wonder if you could each expand on your positions on what apparently is, you know, a disagreement.

Ms. BAER. Well, the bill requires notification of the public, but it does not actually define how this could be done. As you have heard from Mr. Shafer and from some of the other panelists, and as we have found in our research across the country, there are a number of excellent mechanisms, such as Web site alerts, postings, phone hotlines. There are a lot of different ways to notify people to most effectively reach them, given who is in your community and who is out using the water.

So my reading of the bill certainly does not mandate any sort of type. It is not intended to be heavy-handed, nor is it—and it should be left open so that we can further define and let communities best tailor it to really make sure people have a right to know.

Mr. BISHOP. Thank you.

Mr. Shafer.

Mr. SHAFER. I am not sure there is really any conflict. We agree that we need to look at these issues, and, you know, we feel that, as we move forward, we need to work together, but we do know that every system is different. Some systems are as large as Dallas', which is very large, versus Milwaukee's, versus very small systems.

So one of the concerns is maybe that there is not enough definition in this, and that that may be something that we could ask the EPA, which is to add more definition so that it would make some of the various members of NACWA feel more comfortable with the requirements. But we are in support of notifying the public, and we just need to make sure that there is more definition added to this issue.

We are a little concerned that there may already be reporting requirements there through the CSO policy of 1994 and the EPA's work with the SSO facts sheet, and we just do not want to be duplicative with something that is already there.

Mr. BISHOP. It seems to me that our goal is to achieve nationally what you have achieved in Milwaukee. I mean, you clearly are presiding over a first-rate system, and as I read your testimony, I was a little surprised because you seem to be—no pun intended—lukewarm on H.R. 2452. Tell me why. I mean, is it because of your concern about duplicative requirements?

Mr. SHAFER. Absolutely, and it is also something where, in 2001, the EPA had promulgated a rule for SSOs that was never moved forward, and we need to be able to look at this in a comprehensive manner. Just like with watershed approaches, we need to look at everything in a comprehensive manner. We need comprehensive SSO guidance from the agency so that we can address all of these issues in a cohesive fashion, and we need to fund that as well.

So I would not say we are lukewarm to it. We just need to make sure that we do not overlap with existing regulations that are there, and we need to work with all of the organizations similar to what we did with some of the other wet weather approaches that we have addressed—that ″NACWA,″ when I say ″we,″ has addressed, and that we move forward in a cohesive fashion to address these issues.

Mr. BISHOP. Thank you.

My last question: Ms. Baer, in his testimony earlier, Administrator Grumbles indicated that he thought the best approach to

public notification of sewer overflows would be that of flexibility to utilize existing guidance and working with permit writers to include notification requirements in the NPDES permits.

Do you agree with that approach, or would you take a different approach?

Ms. BAER. I think we believe that the current policy is insufficient to protect public health, and while we certainly appreciate Mr. Grumbles' efforts to move things forward through policy, so far this has not actually achieved its goals, and we know that many people are still at risk. I can give you specific stories from across the country.

Even earlier this year in Florida, 200,000 gallons of sewage spilled into a stream that went into the Tampa Bay. Local residents were out in the water and did not know about it until the media came and told them 2 days later. We see complaints like this around the country.

So, even though I think it is important to take a flexible approach and work with communities and permit writers, H.R. 2452 is critical to making sure there is a requirement nationwide and is consistent to protect public health.

Mr. BISHOP. Thank you very much.

Mr. LoBiondo.

Mr. LOBIONDO. Thank you, Mr. Chairman.

I thank our panel members for being here today. I appreciate your testimony.

For Ms. Baer, I have had a couple of questions posed to me which I am going to pose to you, because I think you would have a better way of answering them than I would.

I was asked, why focus on public notification? Why not focus on actively trying to reduce the amount of sewage pollution going into our waterways?

Ms. BAER. I think it is a good question because, as we pointed out, there still is a lot of sewage pollution, unfortunately, going into our waterways.

The way we see it is that right now we have an important public health threat that needs to be addressed that this bill addresses, but this bill also provides a great benefit that Dr. Summers really explained quite well, that it will galvanize support for the many solutions that we know are needed to raise the infrastructure investment in the clean water infrastructure.

So we see this as an important step right now to address public health concerns, while we also continue to seek the solutions and to fight hard and to work with others in the wastewater treatment community and in the public health community to make sure there is enough money, enough funding, and resources to actually improve our infrastructure.

Mr. LOBIONDO. Another question that was posed to me: How do I know that there are not effective notification systems in most places? Why do we need legislation to fill the gap if we do not know for sure?

Ms. BAER. Our own analysis of 11 States, as well as other reports that have looked at States and the Great Lakes, Florida and across the country, have shown that there really is a gap. We know the States I mentioned do not have any public notification policies at

all, and so we are finding, both from looking actually at the policy as well as hearing of stories where we know people are, unfortunately, in streams and creeks when there is a sewage spill and they do not know about it, that there is this need for a Federal consistent minimum, and it is wonderful that some communities are already doing this, and because they would surpass those Federal requirements, those programs would remain in place.

Mr. LOBIONDO. Thank you.

Mr. Shafer, as Chairman Bishop indicated, you have kind of got the gold standard in Milwaukee of what we would like to see in a lot of other places.

Can you tell us a little bit about what is involved with your monitoring system? What kind of equipment? Do you have any handle on what the costs were to get to the point where you are now?

Mr. SHAFER. We may have a gold-plated system, but there is always something that we can improve on. We always need to look at our system and see if we can improve.

We spent about $50 million on various improvements to the instrumentation in our system and on the controls in our system. We have approximately 14 pump stations where we have indicators that, when a pump kicks on and starts overflowing to a creek, we know it immediately. We also have level indicators throughout the system so that, as the depth in the pipe gets above certain critical elevations, we know it immediately, and we have area velocity meters throughout our system so we can compute the flow and the velocity coming to our treatment plants. We also have a deep tunnel system that I testified to that has gates where we can measure the flow at those points, and at certain critical elevations we have to close those gates.

We have a very intelligent system that allows us, through a central control system, to monitor over 300 miles of pipe that we can see flows, velocities and depths. Then, if we have an overflow, we report it immediately to the various regulators, to the public health department and to our public through our Web site.

Mr. LOBIONDO. Do you feel the age of your pipe is any kind of a problem for you?

Mr. SHAFER. The age of pipe is always a problem for a community the age of Milwaukee, and we are continually trying to either reline those pipes or replace those pipes. So capital improvements, as was stated earlier, preventing the overflow up front is the most important goal of all clean water agencies. That is done through good management, good asset management, and good capital improvement programs. So funding those programs is critical, the age of pipe is critical, and you need to always monitor the system very closely.

Mr. LOBIONDO. Thank you.

Mr. BISHOP. Thank you.

Mr. Boozman.

Mr. BOOZMAN. Thank you, Mr. Chairman.

I just am curious. I know that we are referring to, you know, the combined and the sanitary sewer overflows.

In regard, though, to the problem of raw sewage, what part do septic tanks play in the picture? Do you have any idea, Ms. Baer?

Do you all have septic tanks in your community, Mr. Shafer? Is that a thing of the past or——

Mr. SHAFER. We do not have septic in——

Mr. BOOZMAN. No. Around a lot of the rivers and lakes and streams and things in rural areas, you know, that is a significant component. Again, I just was curious if you knew what percentage the raw sewage problem was in that regard.

Ms. BAER. I do not have that information. I would be glad to respond to you in writing. I do know septic is a proportion of it, and this bill focused more on the big volume spills, which are more often from the——

Mr. BOOZMAN. You mentioned the volume of the—and again, I am just curious. I believe Dr. Lipp talked about pouring like a cup or a cup and a half into a swimming pool, and then you mentioned the 200,000 gallons into Tampa Bay.

Can you make a comparison in the swimming pool there? Is that like a thimble, or is that like a 5-gallon bucket?

Ms. BAER. I am afraid I would have to get out my calculator to figure that one out for you. I can get back to you. I do not know.

Mr. BOOZMAN. Okay. Good.

Well, again, thank you, Mr. Chairman. Thank you.

Mr. BISHOP. Thank you very much.

If there are no more questions, I will dismiss the second panel with our thanks. Thank you very much.

[Whereupon, at 4:25 p.m., the Subcommittee was adjourned.]

STATEMENT OF THE
HONORABLE RICHARD BAKER

HEARING ON
"RAW SEWAGE OVERFLOW COMMUNITY RIGHT TO KNOW ACT"

COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE
WATER RESOURCES & ENVIRONMENT SUBCOMMITTEE

OCTOBER 16, 2007

- OUR NATION HAS NEARLY 23,000 MILES OF OCEAN AND GULF SHORELINE ALONG THE CONTINENTAL UNITED STATES, 5,500 MILES OF GREAT LAKES SHORELINES, AND 3.6 MILLION MILES OF RIVERS AND STREAMS.

- PUBLIC CONFIDENCE IN THE QUALITY OF OUR NATION'S WATERS IS IMPORTANT TO EVERY CITIZEN OF THIS NATION, BUT IS ALSO CRITICAL TO INDUSTIES THAT RELY ON SAFE AND CLEAN WATER.

- TO IMPROVE THE PUBLIC'S CONFIDENCE IN THE QUALITY OF OUR NATION'S WATERS AND PROTECT PUBLIC HEALTH AND SAFETY, SEVERAL OF MY COLLEAGUES HAVE INTRODUCED H.R. 2452, "THE RAW SEWAGE OVERFLOW COMMUNITY RIGHT TO KNOW ACT".

- H.R. 2452 REQUIRES THAT COMMUNITIES MONITOR FOR POTENTIAL OVERFLOWS OR LEAKS IN THEIR SEWER SYSTEMS AND TO NOTIFY THE PUBLIC WHENEVER A RELEASE WOULD THREATEN PUBLIC HEALTH AND

SAFETY. THE BILL DOES NOT PROVIDE ANY NEW FUNDING, BUT AUTHORIZES THE USE OF THE STATE REVOLVING LOAN FUNDS TO PAY FOR THE MONITORING AND NOTIFICATION PROGRAM.

- SOMETIMES, ESPECIALLY DURING WET WEATHER EVENTS, SEWER SYSTEMS OVERFLOW OR LEAK. THIS CAN BE CAUSED BY INADEQUATE DESIGN, CAPACITY, OR BY BREAKS IN THE SYSTEM OF PIPES THAT ARE OFTEN OLD AND IN NEED OF REPAIR. THE CLEAN WATER ACT AUTHORIZES THE STATE REVOLVING LOAN LOAN FUND, WHICH PROVIDES LOW INTEREST LOANS TO COMMUNITIES TO BUILD NEW SYSTEMS OR REPAIR EXISTING ONES.

- I AGREE WITH THE PRINCIPLE OF THIS LEGISLATION THAT THE PUBLIC HAS A RIGHT TO KNOW WHEN THEIR WATERS ARE THREATENED BY SEWER RELEASES. THE POTENTIAL PROBLEM WITH THIS LEGISLATION LIES, NOT IN WHAT IT ATTEMPTS TO DO, BUT IN THE DETAILED REGULATIONS THAT COULD COME FROM IT.

- EPA AND LOCAL COMMUNITIES MUST DEFINE THE APPROPRIATE AMOUNT OF MONITORING TO REASONABLY PROTECT HUMAN HEALTH. BUT THEY SHOULD NOT GO BEYOND A LEVEL OF MONITORING THAT UNWISELY USES UP FUNDS THAT ARE MEANT TO ADDRESS THE VERY INFRASTRUCTURE PROBLEMS THAT ARE CAUSING THE RELEASE OF SEWAGE IN THE FIRST PLACE.

- NOTIFICATION REQUIREMENTS ALREADY EXIST UNDER THE CLEAN WATER ACT, EPA REGULATIONS, AND VARIOUS STATE OR LOCAL LAWS. IN FACT,

COMMUNITIES WITH COMBINED SEWER SYSTEMS ARE ALREADY REQUIRED BY FEDERAL LAW TO IMPLEMENT MONITORING AND NOTIFICATION PROGRAMS.

- IF WE ARE GOING TO ENACT ADDITIONAL LEGISLATION, WE SHOULD BE MINDFUL THAT ANY NEW REQUIREMENTS NEED TO BE REASONABLE, NOT BE COST-PROHIBITIVE, PROVIDE A SUFFICIENT REDUCTION IN RISK, AND TAKE INTO ACCOUNT WHAT IS CURRENTLY BEING IMPLEMENTED BY STATE AND LOCAL ADMINISTRATORS.

- MANY LOCAL GOVERNMENTS ARE STRUGGLING JUST TO PAY FOR BASIC SERVICES. CONGRESS NEEDS TO ENSURE THAT ANY ADDITIONAL REQUIREMENTS ARE NOT DUPLICATIVE AND THEY ADD SUFFICIENT BENEFITS TO CURRENT MONITORING AND NOTIFICATION PROCEDURES.

- WE ALL WANT THE SAME THING – CLEAN WATER – AND I PLEDGE TO WORK WITH MY COLLEAGUES IN PRODUCING A GOOD BILL. I LOOK FORWARD TO WORKING WITH YOU.

STATEMENT OF
THE HONORABLE JERRY F. COSTELLO
SUBCOMMITTEE ON WATER RESOURCES
HEARING ON RAW SEWER OVERFLOW COMMUNITY RIGHT-TO-KNOW ACT
TUESDAY, OCTOBER 16, 2007

Thank you, Mr. Chairman, for holding today's hearing on public notification of raw sewage overflow. This is an important issue to examine to make sure our laws continue to protect human health and the environment.

The Clean Water Act has been called one of the most successful environmental statutes ever enacted. During its over 30 year existence, the Act has been responsible for doubling the number of waters that meet water quality standards – although significant work still remains. One such area is sewage overflows. There are regular sewage overflows and spills seemingly every day; however, the true number of sewage overflows is unknown given that there is no federal requirement for sewage treatment operators to notify the public when there is sewage in our streams and rivers.

This lack of public notification poses a grave risk to our local communities, its citizens, food safety, and air quality. Our colleague, Mr. Bishop, has introduced HR 2452, the Raw Sewage Overflow Community Right-to-Know Act, which I believe is a step in the right direction to make sure that people are fully informed of an overflow and the effects on one's

health. I welcome the witnesses here today, and look forward to their testimony.

OPENING STATEMENT
Congressman Steve Kagen

TRANSPORTATION & INFRASTRUTURE SUBCOMMITTEE ON WATER RESOURCES & ENVIRONMENT
"H.R. 2452, the Raw Sewage Overflow Community Right-to-Know Act"
Wednesday, October 16, 2007

Thank you Chairwoman Johnson and Ranking Member Baker for holding this important hearing on H.R. 2452, the Raw Sewage Overflow Community Right-to-Know Act. I would also like to thank all the members of the panels for appearing before the Water Resources and Environment Subcommittee. I look forward to your testimonies.

Reports indicate that approximately 40,000 times a year, raw sewage runs into lakes, rivers and coastal waters across this country when sanitary sewer systems overflow. Many of these sanitary sewer systems are antiquated and cannot handle the volume of materials flowing into them during extreme weather occurrences.

Pathogens in sewage-contaminated waters can cause a wide range of ear, nose, and throat problems, gastroenteritis, dysentery, hepatitis, and respiratory illness. It is estimated that $28 billion is lost annually due to swimming-related illnesses. According to the Environmental Protection Agency, a lack of notification is one reason why 3.5 million Americans each year get intestinal illnesses and other infections after swimming in water contaminated with sewage. Sewage spills also can threaten drinking water sources in many communities.

To help remedy this problem, Representative Bishop introduced H.R. 2452, which would require operators of municipal sewage treatment systems to immediately report overflows to local public health officials and state regulators and then notify the public within 24 hours. It is my sense that requiring accurate reporting of the numerous leaks which occur would help build support for major investments in our water infrastructure.

Though Wisconsin already requires municipalities to report overflows to the Department of Natural Resources, the regulation stops short of taking the next step of notifying the public. I am interested to learn from our panels how H.R. 2452 could assist Wisconsin and other states heighten public awareness of these discharges, since contact with untreated or partially treated wastewater can affect public health.

Before I conclude my remarks, I would like to take this opportunity to welcome one of our panelists, Kevin Shafer, the Executive Director of the Milwaukee Metropolitan Sewerage District (MMSD). Mr. Shafer assumed this position in March 2002, and his numerous responsibilities include providing direction for MMSD.

Prior to joining MMSD, Kevin spent 10 years in private industry with an international engineering firm in Chicago and Milwaukee, and six years with the U.S. Army Corps of Engineers in Fort Worth, Texas. He holds a bachelor's degree in science and civil engineering with a specialty in water resources from the University of Illinois, and a master's in science and civil engineering from the University of Texas. Shafer received the 2001 Individual Merit Award for Engineer in Government Service from the Wisconsin Section of the American Society of Civil Engineers.

Kevin has worked diligently on MMSD's $900 million Overflow Reduction Plan. In addition, he initiated the national award winning Greenseams program to create natural buffers to protect regional waterways, and he has been a leader for innovative ways to manage stormwater runoff.

I look forward to his testimony, and the remarks of our other panelists.

Thank you Chairwoman Johnson and Ranking Member Baker, and I yield back my time.

1 Harry E. Mitchell

Statement of Rep. Harry Mitchell
House Transportation and Infrastructure Committee
Subcommittee on Water Resources and Environment
10/16/07

--Thank you Madame Chairwoman.

--As Americans, we often take clean drinking water for granted. But obviously we cannot afford to do so.

--Maintaining safe and drinkable water takes a lot of work, and a continued commitment.

--Our supply faces threats, and we have an obligation to guard against them.

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--One of these threats comes from sewer overflows.

--Sewer systems commonly carry microbial pathogens, which, when leaked into drinking water supplies, can pose serious health risks to humans. Exposure to these pathogens can cause, vomiting, diarrhea, respiratory infections, fever, and even death.

--One of the best ways we can protect the public from this threat is to make sure they

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are notified when their drinking water has been placed at risk.

--Today we will consider a bill that seeks to do that.

--I look forward to hearing from today's witnesses about this issue, and at this time I yield back.

STATEMENT OF
THE HONORABLE JAMES L. OBERSTAR, CHAIRMAN
SUBCOMMITTEE ON WATER RESOURCES AND ENVIRONMENT
HEARING ON THE RAW SEWAGE OVERFLOW COMMUNITY RIGHT-TO-KNOW ACT.
OCTOBER 16, 2007

Today, the Subcommittee will focus on the issue of public notification of sewer overflows, such as those provided in the Raw Sewage Overflow Community Right to Know Act.

Let me begin by congratulating our Committee colleague, Mr. Bishop, for introducing legislation to provide common-sense standards for public notification of both combined sewer overflows and sanitary sewer overflows. This well-thought-out legislation would be a welcome addition to Federal efforts in protecting public health as well as the natural environment.

The most reliable way to prevent human illness from waterborne diseases and pathogens is eliminate the potential for human exposure to the discharge of pollutants from combined sewer overflows (CSOs) and sanitary sewer overflows (SSOs). This can occur either through the elimination of the discharge, or, in the event that a release does occur, to minimize the potential human contact to pollutants.

Unfortunately, Federal law does not provide uniform, national standards for public notification of combined and sanitary sewer overflows. Notification of sewer overflows is covered only by a patchwork of Federal regulations, state laws, and local initiatives aimed at limiting human exposure to discharges.

Potential human exposure to the pollutants found in sewer overflows can occur in a variety of ways. According to EPA, the most common pathways include direct contact with sewer discharges in recreational waters and beaches, drinking water contaminated by sewer discharges, and consuming or handling contaminated fish or shellfish. However, humans are also at risk of direct exposure to sewer overflows, including sewer backups into residential buildings, city streets, and sidewalks.

Just last week, in my own Congressional district, basements and city streets across the city of Duluth were flooded with sewer overflows that resulted from massive rainstorms in the Lake Superior basin. The Western Lake Superior Sanitary Sewer District reported at least 7 major sewage overflows in its service area, with reports of numerous additional backups into local streets and basements.

The cost of eliminating CSOs and SSOs throughout the nation is staggering. In its most recent Clean Water Needs Survey (2000), EPA estimated the future capital needs to address existing CSOs at $50.6 billion. In addition, EPA estimates that it would require an additional $88.5 billion in capital improvements to reduce the frequency of SSOs caused by wet weather and other conditions.

Upon being elected Chairman of this Committee, I made it a priority to renew the Federal commitment in addressing the nation's wastewater infrastructure needs.

In February, the Committee approved two bills – H.R. 720, the Water Quality Financing Act and H.R. 569, the Water Quality Investment Act – to reauthorize appropriations for the construction, repair, and rehabilitation of wastewater infrastructure, including measures to address CSOs and SSOs. H.R. 720 authorizes appropriations of $14 billion over four years for the Clean Water State Revolving Fund, which is the primary source of Federal funds for wastewater infrastructure. H.R. 569 authorizes appropriations of $1.7 billion in Federal grants over five years to address combined sewers and sanitary sewers. Both bills were approved by the House in March, 2007 and are pending before the United States Senate.

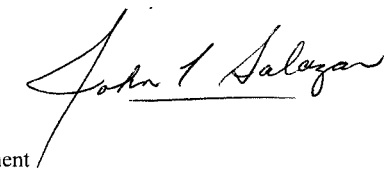
However, even with significant increases in federal, state and local investment, it is likely that sewer overflows will continue. In the event that a release does occur, the most effective way to prevent illness is to provide timely and adequate public notice to minimize human exposure to pollutants.

Today's hearing will explore the issue of public notification further.

This afternoon, the Subcommittee will receive testimony from several communities that have voluntarily initiated a public notification program. Yet, we should strongly consider whether we can replicate these successful programs nationwide so that all citizens can be informed of local sewer overflows.

Again, I applaud Mr. Bishop for introducing this common-sense legislation to ensure that our citizens are made aware of the potential public health threats caused by sewer overflows.

I welcome the witnesses here this afternoon, and look forward to their testimony.



Opening Statement
Congressman John T. Salazar
T&I Subcommittee on Water Resources
Hearing on Raw Sewage Overflow Community Right-to-Know Act
October 16, 2007

Thank you, Madame Chair.

I've mentioned in previous hearings some of the water contamination problems that we're facing in many parts of Western Colorado.

We all know that untreated raw sewage leads to serious public health, safety and environmental concerns.

In my district, the City of Pueblo, Colorado sits 50 miles downstream from the City of Colorado Springs on the Fountain Creek.

The City of Colorado Springs has admitted having more than 100 discharges of raw sewage into the creek and its tributaries since 2000.

The raw sewage flows downstream to Pueblo and into the Arkansas River, continuing onto economically depressed communities in the Lower Arkansas Valley of Colorado and into Kansas.

Children play in parks along the banks of the Fountain in the working class community of East Pueblo where signs read, "Stay out of the river. Beware of contaminated water."

This isn't only an environmental injustice, it's an economic injustice.

The wealthy upstream residents have repeatedly failed to fix their sewage system, affecting the lives of those living downstream.

Thankfully, nobody has died from Ecoli, but those of us downstream deserve fair and prompt notice when a spill occurs.

Madame Chair, I know this is a complicated issue.

I have heard concerns from wastewater directors in my district who believe that HR 2452 improperly applies controls intended for combined sewers to separate sanitary sewer systems.

And that it usurps the right of states to manage their own water quality programs.

So I'm interested in hearing the panel's response to both sides of the issue.

I look forward to today's hearing. Thank you.

Testimony before the
Subcommittee on Water Resources and Environment
Committee on Transportation and Infrastructure
U.S. House of Representatives

On The Raw Sewage Overflow Community Right to Know Act
H.R. 2452

October 16, 2007

by Katherine Baer
Director, Healthy Waters Campaign
American Rivers
www.americanrivers.org

Introduction

Good afternoon, Chairwoman Johnson, Ranking Member Baker, and members of the Subcommittee. I appreciate the opportunity to appear before you today in support of H.R. 2452, the Raw Sewage Overflow Community Right-to-Know Act. My name is Katherine Baer and I am the Director of American Rivers' Healthy Waters campaign. American Rivers is a national non-profit organization whose mission is to stand up for healthy rivers so our communities can thrive. We believe rivers are vital to our nation's and our communities' health, safety and quality of life. We pioneer and deliver locally-oriented solutions to protect natural habitats and build sustainable communities. We lead national campaigns to raise awareness of river issues and mobilize an extensive network that includes more than 65,000 members and activists to help safeguard our rivers.

This week we will celebrate the Clean Water Act's 35th birthday. This landmark law has provided enormous benefits to communities nationwide from cleaner water, better wastewater management, and strong control over polluters. One of the most notable accomplishments of the Clean Water Act has been the enormous local, state, and federal investment in water treatment infrastructure. The number of people served by publicly owned treatment works increased by 35% since the Clean Water Act was passed and the number served by systems with secondary treatment or better has almost doubled. As a nation, we can be proud of the strides we have made to clean up rivers that used to be little better than open sewers. Nonetheless, we still face challenges to reach the Act's goals of fishable and swimmable waters.[1] Despite great strides made in the area of wastewater treatment, hundreds of billions of gallons of raw and partially treated sewage still flow into our streams, rivers, and lakes each year.[2] The reasons for this continued pollution problem are many and include old and crumbling infrastructure, sharp declines in federal investment in wastewater infrastructure, sprawling population with an associated increased burden of sewage and stormwater into wastewater systems, and variable enforcement of existing permits and laws. In fact, the U.S. Environmental

[1] Clean Water Act §101(a)(2).
[2] U.S. EPA, *Report to Congress: Impacts and Control of CSOs and SSOs*, Office of Water EPA 833-R-04-001 (2004).

Protection Agency (EPA) noted in its 2000 report on water funding needs that, left unaddressed, these problems would cause us to slip back to water pollution levels we haven't experienced since the 1970s.[3]

Regardless of the cause, however, we have a fundamental right to know when sewage spills into the streams and rivers where we and our families swim, play and paddle. This is a simple and common-sense concept that not only keeps people safe, but also builds much needed public support for the continued investment needed to maintain well-functioning sewers and treatment plants and other solutions needed to reduce sewage pollution. Rivers are vital community assets. And while we continue working to fully realize the Clean Water Act's goals, and to achieve the full economic and quality of life benefits of clean rivers, we must provide the information necessary for people to stay safe and healthy.

For this reason, American Rivers strongly supports H.R. 2452, the Raw Sewage Overflow Community Right-to-Know Act, which requires monitoring and public notification of sewage overflows that have the potential to affect public health. The provisions in H.R. 2452 mirror those proposed as part of a comprehensive and broadly supported Environmental Protection Agency (EPA) proposed 2001 rule for Sanitary Sewer Overflows that was never finalized.

This testimony will address the following topics:

1. Contact with untreated or partially treated sewage is a serious public health threat that must be addressed;
2. Current nationwide policy does not require public notification when there are sewer overflows that could affect public health, needlessly leaving people without critical information;

[3] U.S. EPA, *Progress in Water Quality: An Evaluation of the National Investment in Municipal Wastewater Treatment,* U.S. EPA 2-72, (June 2000).

3. H.R. 2452 provides a straightforward, common-sense solution by requiring monitoring and notification to protect public health. Keeping the public informed is a first line of defense to keep people safe and healthy while solutions to reduce sewage pollution are sought.
4. Some cities and utilities are already doing a good job of notifying the public using a variety of mechanisms, showing both that notification can be achieved and is not onerous, and is also an important part of sound management and community safety. H.R. 2452 will help to create a level playing field across the country.

I. Contact with Untreated Sewage is a Public Health Threat

Every year hundreds of billions of gallons of untreated sewage flow into our rivers, lakes, and coastal waters.[4] Unknowingly, many Americans and their loved ones risk serious illness when untreated sewage seeps into the water they use for recreation or drinking. Individuals become ill from contaminated recreational waters through ingestion or contact with eyes, ears, nose, or skin. Children are especially vulnerable since they tend to submerge their heads more often and are more likely to swallow water when swimming. The EPA estimates that up to 3.5 million people become ill from contact with raw sewage from sanitary sewer overflows alone each year.[5] Since 1989 there have been increases in the number of waterborne disease outbreaks involving gastroenteritis associated with recreational contact in ambient waters.[6] For instance, one study found that swimmers at polluted beaches in the Great Lakes region were at least twice as likely to have gastrointestinal illnesses as non-swimmers.[7]

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[4] U.S. EPA, *Report to Congress: Impacts and Control of CSOs and SSOs*, Office of Water EPA 833-R-04-001 (2004) at 4-13 and 4-18.
[5] U.S. EPA, *Advanced Notice of Proposed Rulemaking, NPDES Permit Requirements for Municipal Sanitary Sewer Collection Systems, Municipal Satellite Collection Systems, and Sanitary Sewer Overflows* (Jan. 4, 2001) (withdrawn Jan. 20, 2001).
[6] Lee et al. 2002. Surveillance for Waterborne-Disease Outbreaks- United States, 1999-2000. In: *Surveillance Summaries,* November 22, 2002. MMWR 2002;51 (No. SS-8):1-48.
[7] Wade et al. 2006. *Rapidly Measured Indicators of Recreational Water Quality Are Predictive of Swimming-Associated Gastrointestinal Illness*. Environmental Health Perspectives, v. 114, no. 1, Jan. 2006, 24-28.

However, many public health experts believe that the number of illnesses caused by untreated sewage could be much higher than is currently recognized. Many people that get sick from contact with untreated sewage aren't aware of the cause of their illness and don't report it to their doctors or local health officials, leading to underreporting. For example, a recent study found that up to 1.5 million people get gastroenteritis at beaches in just two California counties each year alone.[8]

Sewage spills and the associated health effects are likely to worsen in coming years as the population grows, green space is replaced with roads and parking lot surfaces, and the resulting increase in stormwater runoff and wastewater overwhelms overburdened wastewater treatment systems. At the same time, funding for clean water infrastructure has been continually cut. According to EPA, climate change threatens to aggravate the problem by altering rainfall patterns and creating more extreme weather events yielding more sewer overflows in some regions.[9] Global warming may well increase the frequency of waterborne disease outbreaks, which are already strongly associated with extreme precipitation.[10]

Finally, consuming contaminated drinking water or food also is known to be a primary source of exposure to untreated sewage. Both are well documented risks associated with disease. Surprisingly, although few states currently require it, notifying public water supply intakes and other downstream water-users is one of the most important steps for protecting public health and avoiding treatment plant problems.[11] The largest recorded outbreak of waterborne disease in the U.S. occurred as a result of contaminated drinking water. Over 400,000 people became ill after exposure to *cryptosporidium* in Milwaukee's drinking water supply in 1993. Water supply intakes must be alerted when

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[8] Given, Suzan, L.Pendleton & A. Boehm. *Regional Public Health Cost Estimates of Contaminated Coastal Waters: A Case Study of Gastroenritis at Southern California Beaches. Environmental Science and Technology*. 40 (2006): 4851-4858.

[9] See e.g. U.S. EPA, *A Screening Assessment of the Potential Impacts of Climate Change on Combined Sewer Overflow (CSO) Mitigation in the Great Lakes and New England Regions*, DRAFT Report, EPA/600/R-07/033A (2006).

[10] Curriero, et al. 2001. *The Association Between Extreme Precipitation and Waterborne Disease Outbreaks in the United States, 1948–1994*.Vol. 91, No. 8, J. Am. Pub. Health Assoc. 1194-1199.

[11] Richard W. Gullick et al., *Developing Regional Early Warning Systems for U.S. Source Waters*, Journal of the American Waterworks Association (June 2004).

source waters are contaminated so that they can take additional steps to protect the public's drinking water.

When an individual comes in contact with sewage, there are a great number of acute and chronic illnesses that can result depending on the pathogen or chemical contaminating the water. These pathogens can be broken down into three categories: bacteria, protozoa, and viruses. There are many pathogens that have yet to be documented – less than 1 percent of these pathogens have been cultivated and studied – and in many cases the pathogen responsible for an illness cannot be identified. The most commonly recorded health effects associated with sewage are acute conditions such as diarrhea caused by waterborne pathogens. In addition to these acute effects, pathogens and a number of emerging contaminants can cause serious chronic illnesses such as reactive arthritis, liver damage and heart disease. The health effects from contact with emerging contaminants in sewage such as pharmaceuticals are potentially harmful to the human endocrine system. Even less is known about the potentially synergistic effects of exposure to numerous contaminants and pathogens. Attachment A is a review of the known and suspected health effects of exposure to untreated or partially-treated sewage.

II. Current Policy Leaves the Public in the Dark About Sewage Spills

Currently, federal public notification, or "right-to-know" requirements for sewage are almost nonexistent, and state requirements, where they exist, are highly variable. While some states and individual cities or utilities have excellent public notification programs, in most places people are left in the dark when there has been a sewage spill in places where they would come into contact with it. H.R. 2452 fills this deficit by requiring minimum nationwide requirements for public notification. Given the extent of sewers and treatment plants and the popularity of river access and in-water recreation, there are significant potential health risks nationally in the many places where strong notification programs do not exist.

Federal Requirement for Public Notification

There are no nationwide public notification requirements for sewer overflows, from either separate sanitary or combined sewer systems, that protect public health.

Sanitary Sewer Systems

Serving over half the U.S. population, Sanitary Sewer Systems (SSS) were designed to convey sewage, but not stormwater. These systems are found in all states, with municipal sanitary systems serving approximately 164 million people.[12] EPA does not have exact numbers for the amount of sewage spilled in Sanitary Sewer Overflows (SSOs), but based on modeling EPA estimates that the annual SSO discharge is between three and ten billion gallons.[13] This imprecision points to the need for better monitoring of sewer systems. The primary causes of SSOs are line breaks from deterioration and lack of maintenance, line blockages, and infiltration from stormwater runoff.[14]

Public Notification for Sanitary Sewer Overflows

Unfortunately, National Pollutant Discharge Elimination System (NPDES) permits do not require public notification for sewage spills from sanitary sewer systems. Instead, NPDES permit holders must report instances of noncompliance with permit conditions to the NPDES permitting authority, usually the state environmental agency, but not to the public or health authorities.[15] Because SSOs that result in a discharge to waters of the U.S. represents "noncompliance," they must be reported to pollution control authorities. But again, these spills do not have to be reported to the general public or health authorities.[16] If the overflow or spill also may endanger health or the environment, the permittee must report this to the permitting agency within 24 hours of becoming aware of the problem, and submit a written report to the permitting agency within five days.[17]

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[12] U.S. EPA, *Report to Congress: Impacts and Control of CSOs and SSOs*, Office of Water EPA 833-R-04-001 (2004) at 4-22.
[13] Id. at 4-26. Note that an earlier unpublished report estimated this number at 311 billion gallons.
[14] U.S. EPA, *Causes of SSOs*, http://www.epa.gov/npdes/sso/control/causes.htm.
[15] 40 CFR 122.41(l) (6) & (7)
[16] See U.S. EPA, *Advanced Notice of Proposed Rulemaking, NPDES Permit Requirements for Municipal Sanitary Sewer Collection Systems, Municipal Satellite Collection Systems, and Sanitary Sewer Overflows* (Jan. 4, 2001) (withdrawn Jan. 20, 2001) (hereinafter Proposed SSO Rule).
[17] 40 CFR 122.41(l) (6) (i).

This information rarely, if ever, gets publicized. The written submission must include the cause of noncompliance, corrective actions taken, and steps planned to reduce and eliminate similar occurrences.[18] Other cases of noncompliance that do not endanger health or the environment must be reported as part of the permittee's monthly discharge monitoring reports (DMRs) that are submitted to the state or federal permitting authority.[19] While there are no federal requirements for public notification of an SSO, states can require, and individual permits can include, public notification provisions.

A broadly supported proposed SSO rule that was withdrawn at the beginning of the current Administration's term in 2001 would have expanded and strengthened public notification by requiring:[20]

- Immediate reports to the permitting authority including SSOs that do not reach waters of the U.S.;
- Immediate notification to the public, public health agencies, drinking water suppliers, and others of SSOs that may imminently and substantially endanger human health;
- Clarified requirements for what information about SSOs should be reported on discharge monitoring reports;
- Publicly available annual reports summarizing all SSOs; and
- Posting of overflow locations where there is a potential to affect human health.

Combined Sewer Systems

Combined Sewer Overflows (CSOs) are different from separated sanitary sewer overflows. They occur in systems designed to convey sewage and stormwater together to plants for treatment. During rain and storms, these combined systems overflow into local waterways, releasing untreated sewage and disease-causing pathogens. Forty-six million Americans in 32 states and the District of Columbia are served by combined sewer

[18] Id.
[19] 40 CFR 122.41(l) (7).
[20] Proposed SSO Rule.

systems and EPA estimates that 850 billion gallons of untreated sewage and stormwater is released annually.[21]

Public Notification for Combined Sewer Overflows

EPA developed a policy (subsequently codified in the Clean Water Act in 2000) to reduce and eliminate CSOs that requires sewer utilities to undertake nine minimum control measures.[22] One of these requirements is public notification, with the goal to inform the public as to the location and occurrence of CSOs and the public health effects.[23] EPA has provided some guidance for what types of notification may satisfy the CSO Control Policy, including posting signs at affected use areas and selected public places, posting at outfalls, placing notices in local media, letter notification to affected residents, and a telephone hotline, all of which could suffice.[24] Unfortunately, compliance with this policy is highly variable resulting in large segments of the public remaining unprotected.[25]

Some states, such as Michigan, require real time reporting by the sewer plant operator to the state environmental agency, public health departments, and the local newspaper.[26] In contrast, in Minnesota, permittees are merely required to post identification signs at CSO outfalls.[27] Likewise, in Kentucky, some CSS permits require notification while others require none.[28] Here in Washington, D.C., one will see CSO warning signs while walking on the C&O towpath, but none are visible from the water in the highly accessible and heavily paddled section of the river upstream from Georgetown.

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[21] U.S. EPA, *Report to Congress: Impacts and Control of CSOs and SSOs*, Office of Water EPA 833-R-04-001 (2004) at 4-13 and 4-18.
[22] 59 Fed. Reg. 18,6888 (Apr. 19, 1994) and 33 U.S.C. §1342(q), Clean Water Act §402(q).
[23] U.S. EPA, *Combined Sewer Overflows Guidance for Nine Minimum Controls*, Office of Water EPA 832-B-95-003 (1995) <http://cfpub.epa.gov/npdes/cso/guidedocs.cfm> (last updated 2002).
[24] Id.
[25] See e.g. Environmental Integrity Project, *Backed Up, Cleaning Up Combined Sewer Systems in the Great Lakes* (2005) <http://www.environmentalintegrity.org/pubs/EIP_BackedUp_fnl.pdf>.
[26] Id.
[27] Id.
[28] Will Hewes & Katherine Baer, *What's In Your Water: The State of Public Notification in 11 U.S. States*, American Rivers (2007) available at: http://www.americanrivers.org/site/DocServer/arswg.all.8_16_07_opt.pdf?docID=6521.

State Requirements for Public Notification are Variable Where They Exist

Lack of federal requirements for sewage right to know leaves a huge gap that states have not filled. American Rivers has recently completed an analysis of sewage overflow public notification requirements in 11 states and only one state, Maryland, had a strong program to protect public health. Most states reviewed had either no public notification requirements for sewage spills or selective or sporadic notification.[29] In South Carolina, Tennessee, Kentucky, and Virginia, there are effectively no statewide public notification requirements.[30]

Analyses for the Great Lakes states and Florida have revealed similar patchwork results, showing that state policies are insufficient to protect public health. In the Great Lakes, of the eight states evaluated, only Michigan received a grade for sewage spill notification higher than a B, and most states were graded with Cs and Ds.[31] Ohio was rated so poorly as a D-, that state legislation for sewer overflow notification has been introduced.[32] Even in Michigan, where reporting requirements are strong, both CSOs and SSOs have been underreported.[33] Likewise in Florida, there are no requirements for public notification.[34]

In some states that are not notifying the public and protecting public health, selective communities may be doing a good job. In Tennessee and Kentucky, specific legal action has prompted excellent public notification programs for some communities. Northern Kentucky's Sanitation District Number 1, which has a model notification program, came under a consent decree in 2005 after repeated Clean Water Act violations.[35] The consent decree required, among other things, public notification of sewer overflows, and the District has initiated an ambitious program to accomplish that goal, sending email alerts,

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[29] *Id.*
[30] *Id.*
[31] U.S. PIRG, *Sewage Warning! What the Public Doesn't Know About Sewage Dumping in the Great Lakes* (2005) http://www.uspirg.org/uploads/Ua/Qv/UaQvrW3J9SnuUtufivHbsw/sewagedumping.pdf.
[32] Ohio HB 235 (2007).
[33] Clean Water Action & Clean Water Fund of Michigan, *Wasting Our Water Wonderland* (2001) <http://www.cleanwaterfund.org/pdf/cso_mi.pdf>.
[34] Clean Water Fund Florida, *Are We Wading in Waste: Florida Sewage Overflows* (2005). Available: http://www.cleanwaterfund.org/pdfs/SewageReportFinal.pdf.
[35] *The Commonwealth of Kentucky vs. Sanitation District No. 1 of Northern Kentucky* (2005). Available: http://www.csop.com/WWPWebDocuments/Consent%20Decrees/Kentucky%20Sanitation%20District%201.%2010-12-2005%20CD.pdf..

maintaining a phone hotline to inform residents of CSOs in their area, issuing proactive advisories based on rainfall, and diligently posting warning signs near all CSO outfalls.[36] In Tennessee, the City of Knoxville now has a strong notification program resulting from a citizen's lawsuit in response to the city's poor record on reducing overflows and notifying the public, including posting the site, issuing media advisories, maintaining web information, and distributing door hangers.[37] These thoughtful procedures to safeguard public health should be the rule, and not the exception.

Examples from around the country also highlight the real, on-the-ground effects from failing to monitor sewer systems and notify the public. For instance:

- In Tampa Bay, Florida, residents were unaware that 200,000 gallon of sewage had spilled from a broken pump station into a ditch that connects to Tampa Bay.[38] Local residents were not notified and one said: "If there's something hazardous that could affect our family or sons, anybody human, they should definitely put a warning or come and tell us or notify somebody that something has [gone] wrong." Another person whose home backs up to the ditch said, "I'm not happy about it. They should have told us, I had no idea until you [the media] came and told us. They should let us know." [39]
- Near Fredericksburg, Virginia, residents also were unhappy to find out about health risks from a sewage spill in their stream after the fact. Said one parent whose children had been playing in Massaponax Creek, home to repeated sewage overflows, after a recent spill: "We're not the only people who play in the creek. Every time I go down there, there are teenagers and dogs swimming in the creek,"

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[36] Sanitation District No. 1, Overflow Notification, http://www.sd1.org/wastewater/overflow.asp.
[37] Tennessee Clean Water Network v. Knoxville Utilities Board. Available: http://www.tcwn.org/pdf/TCWN_Complaint-v-KUB.pdf and see Knoxville Sewer Overflow Response Plan, 2004, http://www1.kub.org/newsite/epa/sorp_report.pdf.
[38] *Sewage Spills Into the Bay*, MyFox Tampa Bay, June 3, 2007. Available at http://www.myfoxtampabay.com/myfox/pages/News/Detail?contentId=3387556&version=1&locale=EN-US&layoutCode=TSTY&pageId=3.2.1.
[39] *Id.*

she said. "I'm very upset that the county waited this long [to alert residents] and there are potential health risks to our whole family now."[40]

In summary, state policies for public notification are inconsistent at best. Given the complete lack of public notification in a number of states, a minimum nationwide standard, as required under H.R. 2452, is essential to provide consistent protection for public health.

III. H.R. 2452 Provides A Straightforward, Common-Sense Approach to Protecting Public Health

To improve the public's access to information about sewage spills, federal sewage overflow notification requirements must be improved. Stronger federal requirements for monitoring and notification in H.R. 2452 would establish a minimum standard that all permittees must meet. This would provide an enforceable and consistent baseline that states may not fall below, providing a safety net for all Americans. Given the complete lack of public notification in a number of states, such a minimum standard is essential.

H.R. 2452 requires publicly owned treatment works (POTWs) to use a monitoring system, technology or management program to alert the owner or operator of an overflow. A basic monitoring system must be a central component of a POTW's notification program with the goal to provide information on most overflows for both notifying the public and allowing POTWs to prioritize upgrades and repairs. Just as cars are required to have check engine lights, wastewater treatment systems should have monitoring systems to inform them of potential problems. Monitoring is key to proper operations and maintenance, and H.R. 2452 allows systems to choose from the great range of monitoring techniques currently available.[41]

H.R. 2452 also requires POTWs to notify the public when there is a sewage overflow with the potential to affect human health. When the spill is uncontained, of a large

[40] *Sewage Spill a Main Concern in Spotsylvania*, Dan Telvock, The Freelance Star, May 20, 2007. http://fredericksburg.com/News/FLS/2007/052007/05202007/284791/index_html?page=1.
[41] See e.g. American Society of Civil Engineers, *Protocols for Identifying Sanitary Sewer Overflows* (2000).

enough size, or in an area where people swim, wade, fish or otherwise could come into contact with untreated sewage, the public should be alerted so they can avoid the risk of becoming ill. Notification must take place as soon as practicable, but not later than 24 hours after the POTW owner or operator becomes aware of the spill. This timeliness component is important as notification after the fact does not protect public health.

The bill also mandates immediate notification of public health authorities and other affected entities, such as drinking water intakes when the spill may imminently and substantially endanger public health. Public health agencies and drinking water suppliers need warning when there is a serious spill to best take action to prevent waterborne illness outbreak. Public health agencies are also best equipped to monitor and track health effects.

Another critical component of H.R. 2452 is that POTWs must report overflows to the permitting agency within 24 hours and follow up with a written report in five days to more fully describe the overflow, its causes and solutions. An annual report summarizing these overflows is also required to summarize the amount of sewage spilled, duration, and mitigation efforts. These reports are important to more fully understand the extent of overflow problems for a system. By increasing transparency, it will be more clear where investments must be targeted and at what level.

Finally, H.R. 2452 allows EPA's clean water state revolving loan funds to be used to carry out these functions.

IV. Select States, Cities, and Utilities Already Notify the Public

Despite the overall lack of public notification, there are certainly a number of states, cities, and utilities that have strong monitoring and public notification requirements. These handful of programs illustrate that notification is feasible and that there are a number of ways to achieve meaningful public outreach. H.R. 2452 allows each state or community to tailor a program to best reach the local population. Notification is not

intended to be one-size-fits-all, and should be designed with the end goal of protecting public health in the most effective way possible.

There are a variety of public notification methods that can be used separately or in combination to reach the broadest possible audience in a timely manner. Public health agencies should also be notified, and in some states are involved in public outreach. Methods that are used include newspaper notices, radio public service announcements, phone hotlines, email alerts, website information, posting of signs, and flagging programs. In Maryland, media advisories are required for spills with the potential to affect public health or those over 10,000 gallons and POTWs must place paid advertisements in the paper to ensure publication.[42] A quicker way of reaching people is direct notification via the phone or internet. Certain counties and municipalities such as Portland, Oregon send emails to interested residents (e.g., boaters, recreational swimmers, parents with young children) when there is an overflow.[43] Others, such as Kentucky's Sanitation District No. 1, maintain a phone hotline to inform residents whether there is an overflow alert in effect.[44] Finally, the Michigan Department of Environmental Quality is required to maintain a website "promptly" listing information about sewage spills.[45] These direct notification methods can be especially effective in communicating risk to regular recreational users that are at the highest risk of contact with sewage.

Posting signs at sewer outfalls and public access points to official and unofficial recreational waters is another essential means of notifying the public of unhealthy pathogen levels. The signs should be dated and designed in such a way to ensure that they are visible to users in the water and readily comprehensible. Signs should either be in multiple languages corresponding to the local population or use universal warning symbols. Another more proactive approach to informing the public that local waterways

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[42] COMAR 26.08.10.08.
[43] Portland Bureau of Environmental Services, CSO Notification http://www.portlandonline.com/bes/index.cfm?a=115425&c=41821#summer.
[44] Sanitation District No. 1, Overflow Notification, http://www.sd1.org/wastewater/overflow.asp.
[45] U.S. PIRG, *Sewage Warning! What the Public Doesn't Know About Sewage Dumping in the Great Lakes* (2005) http://www.uspirg.org/uploads/Ua/Qv/UaQvrW3J9SnuUtufivHbsw/sewagedumping.pdf.

are contaminated can be found in Philadelphia, where the Philly Rivercast program forecasts potential pathogen levels in a portion of the Schuylkill River and uses the forecasts to make recommendations about safe use of the river.[46] It also serves as an early warning system for drinking water contamination. Using the historical relationship between water quality, streamflow and rainfall, the City can now predict bacteria levels by analyzing rainfall, streamflow and turbidity in real time and make recommendations about the safety of various recreational activities on the river and post this information on their website where it is easily accessible.

An example of an excellent state and local notification program is in Anne Arundel County, Maryland. Under state law, each Maryland County ultimately determines how it will notify the public and whether it will surpass the minimum requirements. Anne Arundel County, on the Western shore of the Chesapeake Bay, has an exemplary notification program that includes email alerts, a regularly updated website and a phone hotline. The county public health department issues beach closures or health advisories depending on the size of the spill and uses the above methods as well as engaging the local media to inform affected communities. Anne Arundel also has fliers which community service agencies may use in door-to-door notification campaigns.[47]

Given that some cities and utilities already are doing a good job of notifying the public using a variety of mechanisms, it is clear that notification is entirely feasible, and is also an important part of sound system management and community safety. All Americans deserve to benefit from the same health protections. H.R. 2452 will help to create a level playing field across the country. This will enable residents in all states to benefit from consistent, baseline public notification, leaving states and communities as always, with the ability to surpass minimum federal requirements.

[46] See www.phillyrivercast.org. note that a similar program exists on the Chattahoochee River in Atlanta, see: http://ga2.er.usgs.gov/bacteria/.
[47] Personal communication with Sally Levine, Anne Arundel Department of Health (12/11/2006).

V. Conclusion

Sewage pollution in our waterways poses a significant health threat to the American public and the ecosystems on which they depend. Reducing the volume of sewage pollution requires innovative approaches and a significant investment of resources to meet the needs of a growing population while protecting the public's right to a safe and healthy environment. In the interim, as sewers continue to overflow on a regular basis, citizens have a basic right-to-know when it is unsafe to swim or play in local streams, rivers, lakes, and beaches. Just as we are alerted to "code red" air pollution days or of contaminated food as the case when bacteria contaminated bagged spinach was quickly pulled from store shelves, we also have a right-to-know about sewage pollution. Prevention is the best medicine as it keeps us from needlessly getting sick and saves the costs associated with medical treatment and lost work days. Timely information is a powerful first line of defense that public notification can provide.

H.R. 2452 also will ultimately help drive a reduction in sewage pollution as the public becomes aware of infrastructure problems. As one industry consultant recently stated, "Until a municipality can put numbers on the impact of sewer spills, the infrastructure doesn't get the attention it needs."[48] A basic monitoring system must be a central component of a POTW's notification program with the goal to provide information on overflows that threaten public health and allow POTWs to prioritize upgrades and repairs. POTWs are critically important for the nation's clean water, and their owners and operators work hard every day for a healthy environment. However, the public needs to be aware when their health is at risk and that more money is needed to invest in our crumbling infrastructure. Raising awareness of sewer overflows will increase public support for the financial investment necessary to reduce sewage pollution, in addition to keeping people away from contaminated water. Public notification of sewage spills is essential so that people can protect themselves and their families from getting sick, while also galvanizing support for the solutions to reduce sewage pollution.

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[48] *Infrastructure Growing Pains*, WEFTEC Update, Summer, 2007.

Thank you for the opportunity to testify on H.R. 2452. I look forward to any questions you may have.

Attachment A: ***Acute and Chronic Effects from Waterborne Pathogens***

	Agent	Acute Effects	Chronic or Ultimate Effects
Bacteria	*E. coli* 0157:H7	Diarrhea	Death, Hemolytic Uremic syndrome
	Legionella pneumoniae	Fever, pneumonia	Elderly: death
	Helicobacter pylori	Gastritis	Ulcers and stomach cancer
	Vibrio cholerae	Diarrhea	Death
	Vibrio vulnificus	Skin and Tissue infection	Death in those with liver problems
	Campylobacter	Diarrhea	Death: Guillain-Barré syndrome
	Salmonella	Diarrhea	Reactive arthritis
	Yersinia	Diarrhea	Reactive arthritis
	Shigella	Diarrhea	Reactive arthritis
	Cyanobacteria	Diarrhea	Potential Cancer
	Leptospirosis	Fever, headache, chills, muscle aches, vomiting	Weil's Disease, kidney damage, liver failure, death
	Aeromonas hydrophila	Diarrhea	
Parasites	*Giardia lamblia*	Diarrhea	
	Cryptosporidium	Diarrhea	Immunocompromised: death
	Toxoplasma Gondii	Newborn syndrome, hearing and visual loss, mental retardation	Dementia, seizures
	Acanthamoeba	Eye infections	
	Microsporidia	Diarrhea	
	Entamoeba cayetanensis	Amebiasis, amoebic dysentery, abscess in liver or other organs	
Viruses	Hepatitis viruses	Liver infection	Liver failure
	Adenoviruses	Eye infections, diarrhea, respiratory disease	
	Caliciviruses	Diarrhea	
	Coxsackieviruses	Encephalitis, Aseptic meningitis	Heart disease, diabetes
	Echoviruses	Aseptic meningitis	
	Polyomaviruses		Cancer of the colon

Adapted from Rose et al., (1999) and US EPA (2002)[49]

[49] Rose, Joan et al. *Microbial Pollutants in Our Nation's Water: Environmental and Public Health Issues.* Washington, DC: American Society for Microbiology, 1999; U.S. EPA, Summary of Aug.14-15, 2002. Experts Workshop on Public Health Impacts of Sewer Overflows, November 2002, p. 9.

TESTIMONY OF
BENJAMIN H. GRUMBLES
ASSISTANT ADMINISTRATOR FOR WATER
U.S. ENVIRONMENTAL PROTECTION AGENCY

BEFORE THE
SUBCOMMITTEE ON WATER RESOURCES AND ENVIRONMENT
U.S. HOUSE OF REPRESENTATIVES

October 16, 2007

Madam Chair and Members of the Subcommittee, I am Benjamin H. Grumbles, Assistant Administrator for Water at the United States Environmental Protection Agency (EPA). Thank you for the opportunity to testify before you today about EPA's efforts to reduce combined sewer overflows (CSOs) and sanitary sewer overflows (SSOs) and increase reporting and public notice as you consider H.R. 2452 – The Raw Sewage Overflow Right-to-Know Act.

CSOs and SSOs contain pathogens and other pollutants that may be harmful to the environment and human health. They can cause or contribute to water quality impairments, beach closures, shellfish bed closures, and contamination of drinking water supplies. Even where they do not reach waters of the United States, overflows may release raw sewage to areas where they present high risks of human exposure, such as streets, residential areas, and basements.

EPA strongly believes that open and transparent reporting and public notification for SSOs and CSOs are critical in our efforts to reduce the health impacts of overflows and ensure the adequate control and elimination of overflows.

Reporting is already required by NPDES permits issued to municipal sewage authorities. EPA distributed a draft fact sheet in April, 2005 that provides permitting authorities with model permit conditions that, when placed in an NPDES permit, would ensure that all SSOs that may endanger human health or the environment are promptly reported to permitting and public health authorities. Reporting on CSOs is also required by our 1994 CSO control policy, which provides the framework for NPDES permitting of combined sewer systems.

In 2001 and 2004, EPA provided Congress with two comprehensive reports on CSOs and SSOs. The 2001 Report to Congress described the implementation and enforcement of the 1994 Combined Sewer Overflow Control Policy. The 2004 Report to Congress described impacts and control of CSOs and SSOs. The 2004 Report determined that CSOs and SSOs are widespread and that improved monitoring and reporting programs would provide better data for decision-makers on CSO and SSO control. The Report indicated that better tracking of environmental impacts and the incidence of waterborne disease would increase national understanding of the environmental and human health impacts associated with CSOs, SSOs and other sources of pollution.

BACKGROUND

Wastewater collection systems collect domestic sewage and other wastewater from homes and other buildings and convey it to wastewater sewage treatment

plants for proper treatment and disposal. The collection and treatment of municipal sewage and wastewater is vital to the public health in our cities and towns. The proper functioning of wastewater systems is among the most important factors responsible for the general level of good health enjoyed in the United States. When these conveyance systems fail and release untreated sewage, however, they can pose risks to public health and the environment.

In the United States, municipalities historically have used two major types of sewer systems. One type, combined sewer systems (CSS), were designed to collect both sanitary sewage and storm water runoff in a single-pipe system. Sewer builders designed this type of sewer system to provide the primary means of surface drainage and drain precipitation flows away from streets, roofs, and other impervious surfaces. State and local authorities generally have not allowed the construction of new combined sewers since the first half of the 20th century. A combined sewer overflow (CSO) is the discharge from a combined sewer system at a point prior to the POTW treatment plant. Some CSO outfalls discharge infrequently, while others discharge every time it rains. Overflow frequency and duration varies from system to system and from outfall to outfall within a single CSS. These outfalls are generally known to sewer operators and authorized in NPDES permits. Combined sewer systems must comply with the regulatory framework established in EPA's 1994 CSO Control Policy, including reporting requirements (see below).

Currently, 828 NPDES permits authorize discharges from 9,348 CSO outfalls in 32 States (including the District of Columbia). Most CSOs are located in the Northeast and Great Lakes regions. EPA estimates the volume of CSO discharged nationwide is 850 billion gallons per year.

The other major type of domestic sewer design is sanitary sewers (also known as separate sanitary sewers). Sanitary sewers are not installed to collect large amounts of runoff from precipitation events or provide widespread drainage, although they typically are built with some allowance for higher flows that occur during storm events as a result of inflow and infiltration that enter the system.

EPA estimates approximately 20,000 municipalities in the U. S. have sanitary sewer collection systems. SSOs are unintended releases of wastewater from a sanitary sewer collection system. EPA estimates that between 23,000 and 75,000 sanitary sewer overflow events occur per year in the United States (excluding basement backups) and that SSOs discharge a total volume of three to ten billion gallons per year. The majority of SSO events are caused by sewer blockages. The majority of SSO volume appears to be related to events caused by wet weather. SSOs can occur at unplanned locations, such as manholes, breaks in a sewer or at pump stations.

Existing Requirements

EPA's CSO Control Policy and the NPDES regulations provide the existing framework for reporting and public notification requirements for sewage overflows.

CSO Control Policy

In 1994 EPA issued the CSO Control Policy to provide guidance on NPDES permit requirements for CSOs. The CSO Control Policy represents a comprehensive national strategy to ensure that municipalities, permitting authorities, water quality standards authorities and the public engage in a comprehensive and coordinated effort to achieve cost effect CSO controls that ultimately meet appropriate health and environmental objectives.

The first milestone under the CSO Control Policy was January 1, 1997 for implementing nine minimum technology-based controls identified in the Policy. Two of the nine minimum controls already provide for the types of reporting and public notification envisioned in H.R. 2452. One of the minimum controls provides that permittees are to monitor their CSOs. A second minimum control provides that permittees are to provide public notification to ensure that the public receives adequate notification of CSO occurrences and CSO impacts. System operators, with the approval of the permitting authority and after opportunity for

public comment, may tailor these requirements to their specific circumstances, but they should provide for prompt reporting to permitting and public health authorities and the public of CSOs that may endanger human health or the environment.

In December 2000, as part of the Consolidated Appropriations Act for Fiscal Year 2001 (P.L. 106-554), Congress amended the Clean Water Act by adding Section 402(q). This amendment is commonly referred to as the Wet Weather Water Quality Act of 2000. Section 402(q) requires that each permit, order, or decree issued pursuant to the CWA after the date of enactment for a discharge from a municipal combined sewer system shall conform to the CSO Control Policy.

Reporting Requirements for SSOs

Regulating SSOs pose different challenges than CSOs. SSOs are typically unplanned, making it more difficult to determine when and where they are occurring. SSOs can occur at almost any location throughout the collection system and may or may not result in a discharge to waters of the United States. In either case, however, they can pose risks to human health and the environment.

Currently, EPA regulations require NPDES permits for municipal wastewater treatment plants to require record-keeping and reporting of non-compliance

events (which includes SSOs). To assure proper implementation, the NPDES regulations provide standard conditions that are to be in NPDES permits for POTWs (see 40 CFR 122.41 and 122.42). Standard conditions in a permit for a POTW apply to portions of the collection system for which the permittee has ownership or has operational control. Of particular relevance for reporting of SSOs is the requirement at 122.41(l)(6) for 24-hour reporting to the permitting authority of any non-compliance (including overflows) which may endanger health or the environment. This initial oral report must be followed up within 5 days by a more detailed written report.

The 2004 Report to Congress found that numerous NPDES authorities were making progress identifying SSO occurrences and their causes, and that NPDES permit requirements establishing clear reporting, record keeping and third party notification of overflows from municipal sewage collection systems are critical to effective program implementation. We are working towards consistency in including requirements for notice to the public and public health officials in NPDES permits.

In April of 2005, EPA distributed a draft fact sheet to NPDES permit writers addressing permit requirements for immediate reporting; written reports; third party notice; record keeping; and capacity, management, operation and maintenance programs. In addition the draft fact sheet discussed permit coverage for municipal satellite collection systems. The draft fact sheet included

model permit conditions, which when included in a permit, would require: 1) immediate (24-hour) reporting of overflows that may endanger health or the environment to the permitting authority; 2) more detailed written reporting within 5 days, including information on location, volume, cause, exposed population, and steps to reduce or eliminate the overflow and mitigate any impacts; 3) reporting of all other overflows on routine discharge monitoring reports; 4) development and implementation of a plan to promptly notify public health agencies and the public of any overflow that may endanger health; 5) appropriate record keeping.

Enforcement

Enforcement of CSO and SSO violations is a priority for EPA. The EPA and States are continuing to address CSO and SSO problems with compliance assistance and enforcement, and they have been retained as a priority for the 2008-2010 implementation of the Performance-based Strategies for CSOs and SSOs. The CSO Performance-based Strategy primarily focuses on ensuring that communities representing significant population centers are making appropriate progress towards addressing their Clean Water Act violations involving CSOs, along with smaller CSO communities in non-compliance causing environmental or human health risks. The SSO Performance-based Strategy primarily focuses on ensuring that large municipal authorities (total treatment capacity >100mgd) and medium municipal authorities (total treatment capacity >10 mgd, but

<100mgd) continue to make progress towards reducing SSOs through adequate capacity, management, operation and maintenance of collection systems (including satellite systems) and wastewater treatment facilities.

In the past eleven years, EPA has entered into over 50 judicial settlement agreements with municipalities to address CSO and SSO violations. States have participated as co-plaintiffs in more than 70% of these actions. When fully implemented, these settlement agreements will result in the reduction of billions of gallons of sewage overflows into the nation's waters. The settlements require comprehensive plans that improve maintenance and operation of systems to reduce/eliminate overflows. Required long-term capital construction projects will expand capacity to ensure proper treatment of sewage.

Infrastructure Management

The sewer overflow challenge highlights our Nation's effort to maintain the pace of environmental progress while infrastructure systems age and communities face varying pressures. The wastewater industry faces a significant challenge to sustain and advance its achievements in protecting public health and the environment.

The Agency has approached the challenge of keeping pace with infrastructure needs of the future by developing a comprehensive strategy built upon what we

call the "Four Pillars of Sustainable Infrastructure" – better management, full cost pricing, water efficiency, and the watershed approach. It is an effort to help ensure that our nation's water infrastructure is sustained into the future by fundamentally changing the way the nation views and manages its water infrastructure. It is a collaborative effort involving drinking water and wastewater utility managers, professional and trade associations, local watershed protection organizations, and federal, state, and local officials.

Part of our strategy includes developing more productive and sustainable utility practices, attributes and tools. A good example of our work in this area is our ongoing collaboration with utilities to ensure that operations and infrastructure are effectively managed.

In May 2007, I signed an agreement between EPA and six major Water Associations. The agreement features a set of Attributes of Effectively Managed Utilities, suggested utility performance measures, and collaboration to promote use of these tools by utilities all around the country. Nationwide, this initiative will allow EPA and the Associations to help utilities manage their operations and infrastructure through a common management framework. Madam Chair, we believe this watershed agreement will lead to fewer leaks, spills, and overflows, as asset management reaches a higher level of understanding and support.

The Statement of Support represents a key milestone that will help utilities' enhance their stewardship efforts with a targeted list of measures to gauge progress over time encompassing infrastructure, overall performance and responsiveness to daily challenges such as overflows and leaks.

Green Infrastructure

In addition to our policy and enforcement efforts, we are promoting a new approach to stormwater, CSO and SSO management that is cost-effective, sustainable, and environmentally friendly. Green infrastructure techniques utilize natural systems, or engineered systems that mimic natural landscapes, to capture, cleanse and reduce stormwater runoff using plants, soils and microbes.

Traditional development practices cover large areas of the ground with impervious surfaces such as roads, driveways, and buildings. Once such development occurs, rainwater cannot infiltrate into the ground, but rather runs offsite at levels that contribute to sewer overflows during wet weather events. Moreover, piped stormwater and combined sewer overflows ("CSO's") may also in some cases have the adverse effects of upsetting the hydrological balance by moving water out of the watershed, thus bypassing local streams and ground water.

Green infrastructure techniques, consisting of site-specific management practices such as rain gardens, porous pavements, and green roofs are designed to maintain natural hydrologic functions by absorbing and infiltrating precipitation where it falls.

On April 19, 2007, Administrator Stephen Johnson signed an agreement with four national groups to promote green infrastructure as an environmentally preferable approach to stormwater management. This agreement is accompanied by an additional statement of support for green infrastructure that has been signed by over 30 national groups. A primary goal of this new partnership is to reduce runoff volumes and sewer overflow events through the wide-spread use of green infrastructure management practices.

EPA and its partner organizations have developed a strategy to promote the benefits of using green infrastructure in mitigating overflows from combined and separate sewers and reducing runoff. The strategy focuses on encouraging the use of green infrastructure as prominent components of combined and separate sewer overflow (CSO & SSO) plans, municipal stormwater (MS4) programs, and nonpoint source and watershed planning efforts. The strategy includes 7 major areas for which objectives and tasks are being developed and implemented: Clean Water Act regulatory support; Research; Implementation tools; Economic viability and funding; Demonstrations and recognition; Outreach and communications; and Partnerships and Promotion.

On August 16, 2007 a joint memo, Use of Green Infrastructure in NPDES Permits and Enforcement, was issued by EPA Water Permits Division and Water Enforcement Division to regional and state NPDES programs. The memo clarifies that green infrastructure technologies are consistent with NPDES permitting and enforcement frameworks, and encourages additional use of these techniques as appropriate.

HR 2452

The Agency supports many of the goals and purposes of HR 2452. We agree with the bill's sponsors that permitting authorities, public health agencies, and the public must be promptly informed of CSOs and SSOs that have the potential to endanger human health or the environment. Further, unauthorized overflows from NPDES permitted facilities, even those in areas where endangerment may not be an immediate issue, represent permit non-compliance and, as such, must be reported to permitting authorities to ensure appropriate oversight and enforcement. EPA has issued regulations, policy, and guidance and provided draft model permit conditions, as described in detail above, to ensure appropriate reporting and public notification of SSOs and CSOs.

EPA opposes any effort to allow the Clean Water State Revolving Fund (SRF) fund to be used for municipalities' administrative reporting requirements. We

believe this violates Title 6 of the Clean Water Act (CWA). The SRF can only be used for capital projects and not for operations and maintenance. To do so would reduce the capital available for water infrastructure construction while providing no additional environmental benefit.

CONCLUSION

In conclusion, Madam Chair, EPA recognizes that effective reporting and public notification for SSOs and CSOs are critical to reduce the health impacts of overflows as well as efforts to ensure the adequate control and elimination of overflows. We have worked with stakeholders for many years to develop a comprehensive, workable and effective framework for reporting and public notice of overflows and will continue that work. This framework is a work in progress, and EPA continues to evaluate its effectiveness and refine it as necessary. We believe our existing authories under the Clean Water Act are adequate for this task. We will continue to work with the members of this committee, our federal and state partners, and the many stakeholders and citizens to ensure appropriate reporting to the public, health officials and the permitting authority. I would be pleased to answer any questions you or your colleagues may have.

TESTIMONY of

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BEFORE THE SUBCOMMITTEE ON

WATER RESOURCES AND THE ENVIRONMENT

COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE

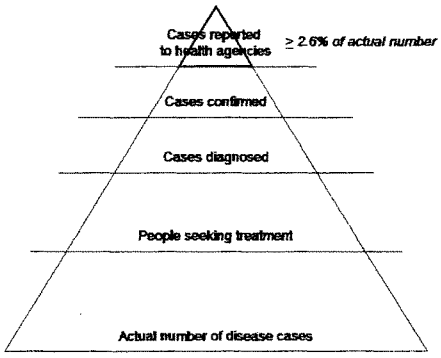
U.S. HOUSE OF REPRESENTATIVES

October 16, 2007

Good afternoon, Madam Chairwoman and members of the Committee. My name is Erin Lipp; I am an associate professor in the College of Public Health at the University of Georgia. I am an environmental and public health microbiologist. My research is focused in the area of water quality microbiology and ecology of waterborne pathogens. For the past decade I have been involved in issues associated with pathogenic bacteria and viruses in sewage impacted natural waters in the southeast United States, including rivers, streams, estuaries, and coastal and coral reef waters. I appreciate the opportunity to provide this Committee with scientific evidence about the role of untreated sewage in the introduction of harmful pathogens to our natural waters, and the potential for human illness resulting from contact with such contaminated water.

The scientific literature shows abundant evidence of the role of contaminated water as a source of infectious disease. According to the Centers for Disease Control and Prevention's (CDC's) most recent reports, there were 62 outbreaks of disease associated with recreational water and 30 outbreaks associated with drinking water reported between 2003 and 2004 [2,6], affecting a reported 5,400 people; however, this is likely a considerable underestimation of the actual numbers of people who became ill.

Among reported waterborne disease outbreaks in the United States the majority of outbreaks and cases were due to gastrointestinal illness [2,6]. While the burden of such reported waterborne diarrheal disease is high, it is widely recognized that these illnesses are vastly under-reported. Of the millions of people that likely contract a diarrheal illness, a small percentage seek medical treatment (~12% [3]), of this group a smaller percentage is actually diagnosed with a disease (or pathogen) and an even smaller fraction is then reported to state or local health departments. Finally, of those only a small number of diagnoses are eventually confirmed by laboratory tests. The end result is that as few as 2.6% of typical waterborne disease cases, causing mild to moderate gastroenteritis (vomiting and/or diarrhea) ever appear in state or federal databases (from Mead et al. [11], who reported that diarrheal diseases may be under-reported by as much as 38-fold). We are truly only seeing the tip of the iceberg in terms of disease burden (see figure below).



Exposure to water that may contain untreated human or animal waste, whether through drinking or recreational contact (swimming), can cause a wide range of diseases including gastrointestinal illness (i.e., diarrhea and vomiting), but also myocarditis, paralysis, hepatitis, dermatitis, ear infections, eye infections and respiratory infections. The severity of these illnesses can be quite varied from mild 24-hour 'stomach virus' to severe dehydration and death. Furthermore, certain segments of our population (for example young children, the elderly and the immune compromised) may be at significant risk from these waterborne diseases. Among the over 900,000 hospitalizations for gastrointestinal illness (from any source, including water [11]) that occur annually in the United States, 25% (~225,000) are children between the ages of 1 and 4 and the elderly (>80 years old) [4]. Furthermore, of the 6,000 deaths attributed to gastrointestinal illness [11], 85% occurred among those over 80 years old [4].

Hundreds of types of pathogenic bacteria, viruses, protozoa and other parasites are known to occur in human feces and untreated sewage. Furthermore, many microbes that are pathogenic to humans are also found in feces and carcasses of domestic and food animals, and slaughterhouse sewage is also commonly received at many wastewater treatment plants. Pathogenic agents and their concentrations in sewage are therefore reflective of the infectious diseases circulating in a population at a given time; in other words sewage contains those microbes that come directly from infected people (or animals in the case of slaughterhouses) in the community. The following agents of infectious disease are commonly detected in untreated sewage and are also implicated in waterborne disease:

- Bacteria including *Salmonella, Shigella, Campylobacter, Legionella,* and *E. coli* (including enterohemorrhagic strains). *Salmonella*, which remains one of the top causes of bacterial associated diarrhea in the U.S., has been estimated to occur at levels around 2,500 cells per liter of raw sewage [5].
- Protozoan parasites including *Cryptosporidium*, *Giardia* and *Cyclospora*. *Cryptosporidium*, which is the top cause of waterborne disease outbreaks in treated water due to its very high resistance to chlorination, was found to occur in raw sewage at a mean concentration of about 5,000 oocysts (infectious stage) per liter, and was found at levels reaching over 13,500 oocysts per liter [10].
- Viruses including enteroviruses (echoviruses, coxsackieviruses, poliovirus), rotavirus, hepatitis A virus, norovirus and adenoviruses. There is a wide range of concentrations of different viral types in sewage and these often vary seasonally (again reflective of the seasonal nature of many viral diseases); however, studies generally show the following range:
    - Rotaviruses (common cause of childhood diarrhea): >50 – 5,000 per liter[9,12]
    - Enteroviruses (common cause of childhood and adult gastrointestinal disease): 100 – 12,000 per liter [9,14,16]
    - Noroviruses (most common cause of adult gastrointestinal disease and notorious as the 'cruise ship virus'): 10,000 – 10,000,000 per liter [8,9]

Risk of disease varies by microbe but in the case of enteric viruses (such as noroviruses) and protozoan parasites (such as *Cryptosporidium* and *Giardia*), as few as one to ten organisms can cause disease in humans. This means that even a highly diluted sewage spill may contain an infectious dose of these agents. For example, assuming 10,000,000 noroviruses per liter of sewage (as described by Lodder et al. [8]), if the sewage was diluted during an overflow by 99.999% (for example, a 1 quart container of sewage emptied into a body of water the size of a typical backyard swimming pool) the final concentration would only be reduced to 100 viruses per liter (only ~30 per liter would be required to cause disease during swimming exposure; or one virus per 32 ml (2 tablespoons) of water that is ingested on average while swimming).

A large number and variety of pathogenic microbes are known to occur in untreated sewage; however, current regulations require that utilities and regulatory agencies monitor for only a small subset of microbes. These so-called fecal indicator bacteria, typically fecal coliform bacteria and enterococci, are not truly pathogens but are used, as their name implies, to indicate the presence of fecal matter and bacteria, viruses and protozoa that *are* pathogenic. While the use of this system has certainly aided in measuring and protecting water quality, they are not effective proxies for many of our most important waterborne pathogens, including viruses and protozoa, which are much more resistant to standard treatment practices and can persist longer once in the environment. For example, my own research in coastal Florida and Georgia has demonstrated that beaches and offshore waters that receive minimally treated sewage and are within the acceptable state and/or federal limits for fecal coliform bacteria or enterococci are frequently contaminated with enteric viruses (including enteroviruses, norovirus and adenoviruses). Yet outside of research studies, we have little widely applicable data on the occurrence (and associated risk) of specific human pathogens in our source water for drinking or our water used for swimming, fishing, or other recreational activities.

Given the lack of specific testing for pathogens, the lack of consistent reporting of sewage overflows, and/or lack of communication between regulators and health agencies, there are few studies that have been able to relate specific health outcomes or disease outbreaks with known sewer overflows. However, some data do exist and projections can be made.

- Drinking water:
  A detailed analysis of outbreaks due to drinking water in the U.S. published in 2002, documented that overflow or seepage of raw sewage was the number one known cause of illness associated with water obtained from untreated wells (groundwater) [1].
- Recreational Water
  In terms of general outcomes and risks associated with contaminated swimming waters, the table below shows the relative risk to public health associated with sewer overflows during dry and wet conditions; this was adapted from a study in coastal Australia [15].

In an example from my own work, extensive degradation of sewer lines in Key West, Florida, led to leakage of sewage into waters surrounding the island in the summer of 1999. During that time over 300 swimmers participated in a 12+ mile race around the island; exposure to that diluted sewage resulted in 30% of the swimmers becoming ill with eye, ear, nose or gastrointestinal infections [17].

Concern	Observation			
	Ambient dry weather conditions (no sewer overflow)	*Stormwater run-off during wet weather (no sewer overflow)*	*Wet weather with sewer overflow*	*Dry weather with sewer overflow*
Risk to public health from enteric bacteria and viruses	None	Low risk from human fecal contamination	Unsafe for recreation during overflow	Extremely high, reflecting very little dilution
Loss of amenity for recreational activities (including aesthetics)	None	Low risk from human fecal contamination	High during overflow	Extremely high

In addition, the impacts of sewage on our aquatic resources should not be ignored, but from a microbiological perspective there are even fewer data available. However, at least in the case of our remaining coral reefs, our most unique coastal resources, land-based pollution, including microbes, nutrients and organic matter from sewage contributes to decline and disease of coral reefs[7, 13].

Notifying the public in the case of a sewer overflow is in the spirit of the *Clean Water Act* goals, which ensures that our nation's waters are fishable and swimmable. Furthermore, given the current lack of communication and data collection on specific pathogens (or other constituents of sewage) there is a clear need to document the effects of sewage spills. To best protect both our public's health and our aquatic resources it is critical that we answer the following: 1) what is in the water? 2) in what concentration?, 3) who (or what, i.e., coral or other aquatic resource) is getting sick? and 4) how can agencies work together to minimize exposure and prevent disease? Implementation of a standard notification process coupled with coordinated data collection will help to address these issues.

In closing, I would like to note the following:

- Efforts to protect our nations interconnected waterways and coastlines is a laudable and *achievable* goal.
- In addition to public notification of sewer overflows, increased data collection on specific pathogens in our water and surveillance of associated diseases, especially among our most vulnerable populations, is needed.

- Additional research and regulations should support improved water quality guidelines to encompass the array of pathogens that threaten human and ecosystem health.

References

1. Craun, G.F., N. Nwachuka, R.L. Calderon and M.F. Craun. 2002. Outbreaks in drinking water systems, 1991 – 1998. J Environ Health 65: 16 – 23.

2. Dziuban, E.J., J.L. Liang, G.F. Craun, V. Hill, P.A. Yu, J. Painter, M.R. Moore, R.L. Calderon, S.L. Roy, and M.J. Beach. 2006. Surveillance for waterborne disease and outbreaks associated with recreational water – United States, 2003 – 2004. Morbid Mortal Weekly Rep 55: 1-31

3. Fleisher, J.M., D. Kay, M.D. Wyer and A.F. Godfree. 1998. Estimates of the severity of illnesses associated with bathing in marine recreational waters contaminated with domestic sewage. Int J Epidemiol 27: 722 – 726.

4. Gangarosa, R.E., R.I. Glass, J.F. Lew, and J.R. Boring. 1992. Hospitalizations involving gastroenteritis in the United States, 1985: The special burden of the disease among the elderly. Am J Epidemiol 135: 281-290

5. Kinde, H., M. Adelson, A. Ardans, E.H. Little, D. Willoughby, D. Berchtold, D.H. Read, R. Breitmeyer, D. Kerr, R. Tarbell and E. Hughes. 1997. Prevalence of *Salmonella* in municipal sewage treatment plant effluents in Southern California. Avian Dis 41: 392 – 398.

6. Liang, J.I., E.J. Dziuban, G.F. Craun, V. Hill, M.R. Moore, R.J. Gelting, R.L. Calderon, M.J. Beach, and S.L. Roy. 2006. Surveillance for waterborne disease and outbreaks associated with drinking water and water not intended for drinking – United States, 2003 – 2004. Morbid Mortal Weekly Rep 55: 32-65

7. Lipp, E.K., Futch, J.C. and D.W. Griffin. 2007. Analysis of multiple enteric viral targets as sewage markers in coral reefs. Marine Pollution Bulletin. *In Press*

8. Lodder, W.J., J. Vinjé, R. van de Heide, A.M. de Roda Husman, E.J.T.M. Leenen and M.P.G. Koopmans. 1999. Molecular detection of Norwalk-like caliciviruses in sewage. Appl Environ Microbiol 65: 5624 – 5627.

9. Lodder, W.J. and A.M. de Roda Husman. 2005. Presence of noroviruses and other enteric viruses in sewage and surface waters of The Netherlands. Appl Environ Microbiol 71: 1453- 1461.

10. Madore, M.S., J.B. Rose, C.P. Gerba, M.J. Arrowood and C.R. Sterling. 1987. Occurrence of *Cryptosporidium* oocysts in sewage effluents and selected surface waters. J Parasit 73: 702 – 705.

11. Mead, P.S., L. Slutsker, V. Dietz, L.F. McCaig, J.S. Bresee, C. Shapiro, P.M. Griffin, and R.V. Tauxe. 1999. Food-related illness and death in the United States. Emerging Infectious Diseases 5: 607-625

12. Mehnert, D.U. and K.E. Stewien. 1993. Detection and distribution of rotavirus in raw sewage and creeks in São Paulo, Brazil. Appl Environ Microbiol 59: 140 – 143.

13. Patterson, K.L., J.W. Porter, K.B. Ritchie, S.W. Polson, E. Mueller , E.C. Peters, D.L. Santavy, and G.W. Smith GW. 2002. The etiology of white pox, a lethal disease of the Caribbean elkhorn coral, *Acropora palmata.* Proc. Natl. Acad. Sci. USA 99:8725-8730

14. Payment, P., R. Plante and P. Cejka. 2001. Removal of indicator bacteria, human enteric viruses, *Giardia* cysts and *Cryptosporidium* oocysts at a large primary wastewater treatment facility. Can J Microbiol. 47: 188 – 193.

15. Pollard, P., R. Leeming, S. Bagraith, M. Greenway and N. Ashbolt. 2005. Impacts of sewage overflows on an urban creek. Water (February): 41 – 46.

16. Tree, J.A., M.R. Adams and D.N. Lees. 2003. Chlorination of indicator bacteria and viruses in primary sewage effluent. Appl Environ Microbiol 69: 2038 – 2043.

17. Nobles, R.E., P. Brown, J.B. Rose and E.K. Lipp. 2000. The investigation and analysis of swimming-associated illness using the fecal indicator enterococcus in southern Florida's marine waters. Florida Journal of Environmental Health 169: 15-19.

Testimony of

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U.S. House of Representatives
Transportation and Infrastructure Committee
Subcommittee on Water Resources and Environment

Good afternoon, Madam Chair and members of the Subcommittee. I am Kevin Shafer, executive director of the Milwaukee Metropolitan Sewerage District (MMSD) and treasurer of the National Association of Clean Water Agencies (NACWA). First, I would like to thank you for your leadership in bringing this important discussion on clean water before the Congress through this valuable hearing. This is an important topic that receives little attention. NACWA is the only organization dedicated solely to the interests of the nation's public wastewater treatment agencies. Our members are dedicated environmental stewards who work to carry out the goals of the Clean Water Act by treating and reclaiming more than 18 billion gallons of wastewater each day. In Milwaukee, we treat about 150 million gallons of wastewater from 28 communities on a daily basis. When it rains, the system may receive five or six times that amount.

I appreciate the opportunity to testify here today on the *Raw Sewage Overflow Right-to-Know Act of 2007* (H.R. 2452). This legislation is designed to achieve an important goal – ensuring the public's right to know about events that could impact their health and their environment. It is a goal that we in the clean water community endeavor to meet every single day. In two days, we will celebrate the 35th anniversary of the Clean Water Act – one of the greatest and most successful environmental laws ever enacted. We are proud of our work and the gains we have made in restoring the nation's rivers, lakes, estuaries, and coastal waters.

Before I discuss H.R. 2452, it is critical to underscore that meeting the Clean Water Act's goals requires a sustainable partnership among all levels of government and a significant recommitment of resources from the federal government, in particular. Since 1972, the federal government has invested more than $72 billion to help cities construct and upgrade their collection systems and treatment facilities. This money was critical to achieving the water quality improvements of the last 35 years. However, despite the huge sums spent to meet our clean water goals, our nation now faces serious long-term funding shortfalls to meet its vital water and wastewater infrastructure needs. According to EPA and other federal agencies, the nation faces a $300-$500 billion water infrastructure funding gap over the next 20 years.

Despite this growing gap, federal assistance has declined by more than 70 percent, and now local communities shoulder more than 95 percent of the cost of clean water. Municipalities are essentially on their own to address the ever increasing challenges of aging infrastructure, a rapidly growing population, expectations of consistently higher quality service, and more expensive and expansive federal regulations.

It is within this context that H.R. 2452 – and the monitoring and notification provisions it seeks to enact – should be viewed if this bill is to be further considered by the Congress. Sewer overflows continue to pose one of the single biggest challenges for clean water managers everywhere. All sewer systems leak. When it rains, water seeps into the sewer system through cracks in our aging pipes, through illegal storm drainage connections, and through poorly sealed manhole covers. This infiltration and inflow of stormwater into sewer systems is a primary cause of sanitary sewer overflows (SSOs) and is very difficult, from an engineering perspective (some would say impossible), and costly to eliminate altogether.

NACWA members do an unparalleled job of working to maintain their systems to ensure top performance in collecting and treating billions of gallons of wastewater. However, it is important to understand that no matter what we do or how much money we spend, overflows will happen, often resulting from circumstances beyond our control. Despite this reality, NACWA members understand the importance of reducing the number of overflows that reach the nation's waterways each year and are working aggressively to upgrade our systems and build additional capacity to ensure we succeed in that arena.

We also take seriously the notion that the public should be notified of spills that could pose a risk to their health or the environment. Most NACWA members are already subject to notification requirements imposed by EPA regulations and guidance under the Clean Water Act, local ordinance, or state regulations. Communities with combined sewer systems must implement monitoring and notification programs for overflows as part of the nine minimum controls required under EPA's 1994 Combined Sewer Overflow (CSO) policy, which was codified in 2000 in the *Consolidated Appropriations Act for Fiscal Year 2001* (P.L. 106-554). Any *additional* federal legislation on monitoring and reporting should acknowledge the programs that are already in place and ensure that any new requirements do not interfere with existing efforts or impose duplicative, unnecessary, and often costly mandates.

As written, the bill calls for a comprehensive monitoring system to detect overflows as soon as possible. What would such a system entail beyond current regulatory requirements? And how much should a community be expected to spend on monitoring equipment? In fact, several NACWA members have voiced concern that H.R. 2452 could impose an overly broad monitoring regime, one that would prove too costly to many municipalities already struggling to find ways to pay for clean water infrastructure improvements.

Fortunately, in Milwaukee, we have an extensive monitoring program that has been in place for over 10 years that we feel exceeds what H.R. 2452 is requiring. In the 1980s and 1990s, Milwaukee spent nearly $3 billion to reinforce our sewer system to protect Lake Michigan. As part of that program, we built a 19.4-mile-long, 405-million-gallon tunnel system that captures flows from both our combined sewer and separate sanitary sewer systems. Additionally, in 2006, we completed an 89-million-gallon deep tunnel that is devoted to separate sewage only and are currently constructing another tunnel that will add 27 million gallons more to our regional system. These tunnels store the water until it can be treated at one of our two treatment plants. Our stewardship of the water environment is impressive. Since the first tunnel became operational in 1994, we have reduced the number of combined sewer overflows from an average of approximately 60 in 1994 to an average of 2 by 2007. We have also reduced separate sewer overflows from an average of approximately 25 in 1994 to an average of about 2 by 2007.

In order to operate the system to realize this high performance record, we are continually improving our extensive monitoring and notification programs. The monitoring system that was installed in 1994 provided a regional, umbrella coverage of our sewer system. Currently, MMSD is upgrading this system with a $50-million, state-of-the-art technology that will allow us "drill down" into our 300 miles of regional sewers with a complex network of monitors, sensors and computerized weather reporting. This updated system will further help MMSD maximize the use of its wastewater storage systems and treatment plant capacity during rainstorms.

Milwaukee's substantial investment is unique, but many municipalities are spending large sums on overflow control and pollution abatement efforts, and no single approach would be appropriate for every city. As these efforts proceed, communities need the flexibility to work with their state permitting authorities to design and implement monitoring and reporting systems that best meet their needs and the needs of their citizens in an affordable, common-sense way.

The United States has an estimated 640,000 miles of sewer lines.[1] Madam Chair, in your home district of Dallas alone, nearly 4,200 miles of sewer pipe carry wastewater to two treatment plants that can treat 260 million gallons of wastewater per day from 2.3 million customers. A one-size-fits-all approach to monitoring a vast network of pipes, in systems that may vary depending on the geographic region, would simply not be the best option.

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[1] Congressional Budget Office, "Future Investment in Drinking Water and Wastewater Infrastructure." (November 2002).

H.R. 2452 also states that all overflows with the potential to harm public health would trigger the notification requirements. The legislation does not articulate how that determination would be made or by whom. Some members have expressed concern that even minor spills of a few gallons that can occur during system routine maintenance of a sewer line could meet the notification requirement threshold. Currently, in many communities with monitoring and reporting requirements, local health departments determine whether an overflow is big enough to warrant public notification in order to avoid unnecessarily alarming the public.

In Milwaukee, we take protecting our citizens and the environment very seriously. While we have been able to substantially reduce the frequency of sewer overflows, some still occur. So in order to make sure we provide all the information necessary to our citizens, we strive to "over report" these occurrences. What I mean by this is that we notify not only our regulators, the Wisconsin Department of Natural Resources, of an overflow event, as currently outlined in H.R. 2452, but we also notify the public health department, local media outlets, and scientists with the University of Wisconsin-Great Lakes WATER Institute, which uses these occurrences as opportunities to gather real-time scientific data to help us plan for future water quality improvements.

Additionally, during a storm, even before a sewer overflow might occur, we have posted on our website, *www.mmsd.com*, a "Storm Update" page which shows in real time the volumes of stormwater and sewage we have kept from overflowing. During those large events, the public can log onto our website and see, in five- minute intervals, how much the tunnel system is storing and how much water is being treated at our treatment plants. Then, the system provides hourly updates of the rainfall totals from our extensive rainfall monitoring network. If an overflow does occur in our system, we also post these immediately on this website.

No one disputes the importance of educating our citizens about public health matters. But rather than addressing these issues in a piecemeal manner, NACWA urges a comprehensive approach to SSOs. EPA should promulgate SSO control regulations, including public notification standards. In early 2001, EPA attempted to issue such a regulation that looked broadly at the management and reduction of SSOs. While NACWA did not agree with all aspects of the proposal, the rulemaking embraced a flexible approach to monitoring and notifying the public of spills that allowed municipalities to work with their state regulators and affected entities on a framework for case-by-case notification based on the nature of the event. The framework in the proposal acknowledged the complexities of immediate notification and provided for a flexible, system-specific overflow response

to identify and clarify specific notification responsibilities and notification protocols. Perhaps this language would be a good starting point for the committee to consider if it moves forward with H.R. 2452.

Due to the complexity of the regulatory issues, EPA never completed work on the SSO rule. Despite the 2001 draft's numerous flaws – and there were many – it at least would have forced a broad national discussion on a holistic approach to SSO control, a discussion that is long overdue. Federal guidance in this area is sorely lacking. In the absence of any federal policy for SSOs, NACWA has worked with other water sector organizations to develop consensus voluntary practices for the management of collection systems with the goal of further controlling overflows. NACWA has also worked collaboratively with fellow environmental organizations on other key wet weather issues and believes a similar collaborative approach can be beneficial in the context of an SSO rule.

Finally, to further help cities address wet weather and other critical clean water infrastructure challenges, Congress should establish a national clean water trust fund. Again as we look to the 35th anniversary of the Clean Water Act, it is vital to recall that success has been achieved through a federal, state, and local partnership. Now is the time for the federal government to recommit itself to helping communities ensure clean and safe water for future generations. NACWA believes this can best be achieved through a meaningful, long-term and sustainable source of revenue in the form of a national clean water trust fund. We're not asking the federal government to do it all but rather to provide truly meaningful assistance with financing the gap between what is now spent at the local level and what should be spent to meet enforceable Clean Water Act requirements. Municipalities will continue to shoulder the vast majority of the cost of clean water, and local communities are proud to play the leading role in fulfilling these obligations. But as Congress contemplates potentially far-reaching requirements, such as those in H.R. 2452, a federal recommitment to investing in our water infrastructure should be a higher priority. We look forward to working with you to ensure continued progress on improving the health of our nation's waters. Thank you.

Reporting and Public Notification Regarding Sewage Overflows or Bypasses in Maryland
Testimony to the Subcommittee on Water Resources and Environment
Regarding The Raw Sewage Overflow Community Right to Know Act
October 16, 2007

Robert M. Summers, Ph.D., Deputy Secretary
Maryland Department of the Environment
1800 Washington Blvd.
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410.537.4187

The Problem and Maryland's Solution

Today, I would like to share with you Maryland's experience with a significantly improved reporting and public notification requirement for sewage spills that took effect in 2001. Maryland's experience also demonstrates the critical importance of federal funding for upgrading older sewer systems.

Sewage overflows are a significant public health and environmental concern in Maryland and throughout the United States. Contaminants likely to be found in sewage overflows include pathogens, suspended solids, oxygen-demanding substances, nutrients, toxic constituents and floatable materials. There are over 100 different groups of human viruses potentially present in untreated discharges of sewage that can cause diarrhea, skin rashes, hepatitis and more serious illnesses such as meningitis and encephalitis. Bacteria such as cholera, salmonella, *E. coli*, *campylobacter*, *H. pylori* and many others are present in human waste. Protozoa including giardia, cryptosporidium and others can also cause severe illness. Sewage overflows cause a variety of negative impacts on receiving waters such as contamination with pathogenic organisms and associated risks to public health requiring the closure of waters to fishing and swimming, contamination of drinking water supplies, fish kills, and overall degradation of water quality.

In Maryland, with our strong commitment to the restoration of Chesapeake Bay and its tributaries, citizens are particularly focused on correcting this and other water quality problems that are impacting the waters of our State. Since issuing the State's initial guidance on the reporting and public notification of sewage spills in October 2000, the Maryland Department of the Environment (MDE), the State's environmental regulatory agency, has received thousands of reports of sewage overflows documenting discharges of many millions of gallons of wastewater. Local wastewater system owners and operators in Maryland have responded very positively to the requirements and have been doing a good job with their reporting. The proactive reporting requirements have resulted in a decrease in citizen complaints and urgent press inquiries about spills. MDE and many local officials have found that the reporting of sewage spills to the public is critical to the protection of public health and is an invaluable public education tool that has built public support for improvements to the sanitary sewer systems (and the sewer rate increases) that are needed across the State. Out of sight, out of mind no longer applies to sewage

systems in Maryland and the Chesapeake Bay and all of the waters of the State are benefiting significantly from the increased attention.

Background

In response to growing public concerns and following several large sewage spills in October 2000, MDE issued a memorandum advising all owners and operators of sewerage systems in Maryland that they were obligated under general provisions in Maryland environmental law to report overflows to MDE. At the same time, MDE initiated a cooperative effort with local environmental health directors, public works officials, and others to develop detailed guidance for owners and operators of sanitary sewer systems regarding reporting of overflows and notification of the public when spills have occurred.

In December of that same year, Governor Parris N. Glendening issued an Executive Order establishing a special Task Force on Upgrading Sewage Systems to identify costs by county and municipality of upgrading aging sewerage systems and separating combined sewerage systems to reduce the occurrence of sewage overflows. With this action, Maryland became one of the first states in the nation to recognize and attack the problems associated with aging sewerage systems.

The Executive Order establishing the Task Force on Upgrading Sewerage Systems identified the high costs of addressing the problems with aging infrastructure (currently estimated at over $1.5 billion) and the members of the Task Force quickly identified the critical need to engage and educate the citizens of the State regarding the importance of the issue. To further strengthen the guidance previously issued by MDE, in 2001 Maryland enacted legislation (Annotated Code of Maryland Environment Article, Section 9-331.1) requiring all owners and operators of sanitary sewer systems and combined sewer systems in Maryland to report overflows to MDE via telephone within 24 hours and provide written notification within five days of the incident. The law also required MDE in consultation with the Maryland Department of Health and Mental Hygiene, the State's health agency, to develop procedures for public notification of sewage overflows.

The Regulations

Following extensive discussions with environmental groups, wastewater system owners and operators and State and local health officials, detailed regulations related to reporting and public notification of sewage discharges became effective on March 28, 2005. Code of Maryland Regulations (COMAR 26.08.10, "Overflows or Bypasses") was issued under authority of Environment Article, §9-331.1, Annotated Code of Maryland. The regulation defines an "Overflow" as "any loss of wastewater or discharge from a sanitary sewer system, combined sewer system, or wastewater treatment plant bypass which results in the direct or potential discharge of raw, partially treated or diluted sewage into waters of the State as defined in Environment Article, §9-101(l) Annotated Code of Maryland."

Overflows are classified into one of three categories: combined sewer overflows (CSOs), sanitary sewer overflows (SSOs) and bypasses. Combined sewer systems are typically present in older cities and are designed to capture stormwater in the same pipes that carry sewage. When stormwater volumes exceed the carrying capacity of the collection system, CSOs occur at

specific points designed into the system. Sewer systems designed to carry sewage only are subject to SSOs that typically occur as a result of heavy precipitation that adds stormwater to sewer systems through inflow or infiltration. Grease and root blockages, pipe and manhole cracks and other physical defects, undersized pipes, and pump failures can also result in overflows. Bypasses occur at the sewage treatment plant when components of the treatment system are overwhelmed by sewage and/or runoff flows or when power or equipment failures occur. In addition to over 300 separate sanitary sewer systems in Maryland there are eight combined sewer systems (Allegany County, Baltimore City, Cambridge, Cumberland, Frostburg, LaVale, Salisbury, Westernport).

The owner or operator of any sanitary sewer system, combined sewer system, or wastewater treatment plant is required to report to MDE and the local health department any overflow that results in the direct or potential discharge of raw, partially treated, or diluted sewage into waters of the State. The owner of a separate sanitary sewer system, pumping station, or grease trap that is connected to a public sewer system is responsible for providing reports to MDE and local health department. Telephone reports must be made as soon as practicable to the telephone number designated by MDE, but not later than 24 hours after the time that the owner/operator becomes aware of the event.

Telephone reports must include the location of the overflow, the name of the owner and operator of the sanitary sewer system or treatment plant; the name of the receiving water and whether the receiving water is designated as shellfish waters or for a public drinking water supply. Reports must also include the volume discharged based on actual measurement or as an estimate using best professional judgment, a description of the component of the sewer system or plant from which the overflow was released, and whether the overflow is a CSO (combined sewer overflow), SSO (separate sanitary sewer overflow) or treatment plant bypass. In addition, the report needs to have a detailed description of visual observations and a preliminary assessment of the overflow's potential or actual impact upon State waters. The cause or suspected cause of the overflow, the date and time when the overflow began and stopped, or is expected to be stopped must be reported. The report needs to also describe the steps taken or planned to reduce, eliminate and prevent recurrence of the overflow and a time schedule for completion of the steps and the measures taken or planned to mitigate the adverse impact with a time schedule for implementation. Finally, the report must say whether the public has been notified, who performed the notification, the media used, and the content of the message.

Within five (5) calendar days after the telephone notification of the event, the owner/operator is required to provide MDE and the local health department with a written report that includes, at a minimum, the information listed above for the telephone report, unless MDE waives the requirement for submission of a written report due to the small volume of the overflow. The written report must be directed to the mailing address specified by MDE.

The owner/operator is required, for at least 5 years from the date of the overflow or backup, to maintain copies of all overflow records and reports, including any backups of sewage into houses or businesses, work orders associated with investigation of overflows, a list and description of complaints from customers or others related to overflows, and documentation of

performance and implementation measures to address overflows. The owner/operator must make this information available to MDE for review upon request.

Public Notification Requirements

The new regulation requires the Department of Health and Mental Hygiene, the local health officer, or the local environmental health director to make all decisions and determinations as to public health issues resulting from an overflow. The Department of Health and Mental Hygiene, the local health officer, or the local environmental health director may require that reports to the public concerning an overflow include specific information regarding public health.

Unless advised by the health department on a case by case basis that public notification is not necessary, the owner/operator must notify the public as soon as practicable, but not later than 24 hours after the time that the owner or operator becomes aware of the event. Notification is required for all overflows greater than 10,000 gallons (equivalent of the daily sewage flow from 100 people) and for overflows of any size that enter shellfish harvesting waters, waters protected as drinking water sources, waters used as public bathing beaches where people may swim, or waters used for public recreation where people may boat, fish or swim, and any situation where the health department has reason to believe there is a public health risk.

Public notification must be made by a public service announcement or paid advertising in a daily newspaper, radio station, or television station serving the immediate area where the overflow occurred and any other areas where the overflow is likely to have an adverse impact. Affected areas must also be posted with signs, if the health department determines that: there is an immediate threat of human contact with contaminated water or ground where the overflow occurred; the size and flow rate of the water body into which the discharge entered are such that the discharge constitutes a significant portion of the flow; the potential for dilution and dispersal of the overflow into the receiving waters is minimal due to the season of the year; the period of time of the actual discharge, or the receiving water already being listed as impaired due to nonattainment of State bacteriological water quality standards; or the concentration of the effluent increases the risk to public health. Signs posted following an overflow may be removed only as directed by the health department.

Any public notification about overflows must state the approximate number of gallons of overflow, when the overflow occurred, where the overflow occurred, the name of the receiving water, that swimming or other direct contact should be avoided in the receiving water from a specific point upstream to a specific point downstream until a specific date that is to be determined by the health department, and a telephone number for additional information. If there are schools, day care centers, hospitals, or similar establishments or locations with potentially sensitive populations that may be subject to exposure in the immediate area of the overflow, the owner/operator of the system or plant or a representative is required to personally notify each establishment of the overflow as soon as possible.

If the total volume of the overflow is less than 10,000 gallons, and the health department determines that immediate public notification is not required, general public notification must

still be provided in quarterly or annual reports, reports of incidents included with water bills, or information about incidents available on a web site in conjunction with a written notification. The information must state that due to various causes, such as accidents and equipment failures, the specific sewer system experienced occasional sewage overflows, the time period being reported, the number of overflows that occurred, and the total number of gallons released.

The owner/operator is required to make any local policies or procedures related to the requirements of this regulation available to the public upon request. The owner or operator must perform sampling of State surface waters that have received an overflow as directed and under the guidance of the health department. The owner/operator must provide data collected after an overflow or bypass event and information about any permanent posting or health advisories to MDE within 14 days of the event.

MDE posts tables listing information about overflows and bypasses on line at: http://www.mde.state.md.us/Programs/WaterPrograms/cso_sso.asp

Enforcement

MDE reviews the circumstances related to all overflows and bypasses and takes enforcement action in cases where adequate caution or preventive measures could have prevented unauthorized discharges. MDE has joined with EPA and the U.S. Department of Justice in the pursuit of several enforcement cases in Maryland involving large municipal systems that have reported many hundreds of overflow events. Several of these systems have only a small part that is "combined." MDE has entered orders with all eight municipalities with combined sewer systems. The agreements address development and completion of Long Term Control Plans that will eventually eliminate or significantly reduce overflows in accordance with federal regulations. The total cost for improvements necessary to repair or replace infrastructure to completely eliminate overflows in Maryland has been estimated to be over $1.5 billion.

MARYLAND

Department of the Environment

Reporting and Public Notification Regarding Sewage Overflows or Bypasses in Maryland

Testimony to the Subcommittee on Water Resources and Environment
Regarding The Raw Sewage Overflow Community Right to Know Act
October 16, 2007

Robert M. Summers, Ph.D., Deputy Secretary

Maryland Department of the Environment

MDE

Sewage overflows are a significant public health and environmental concern

- Pathogens (viruses, bacteria, protozoans)
- Suspended solids
- Oxygen demanding substances
- Nutrients
- Toxic constituents
- Floatable materials

Significant impacts on receiving waters

- Contamination of drinking water supplies
- Closure to fishing and swimming
- Fish kills
- Water quality degradation
- Ancillary degradation of parks, playgrounds, and other public use areas near affected streams

Benefits of reporting and public notification

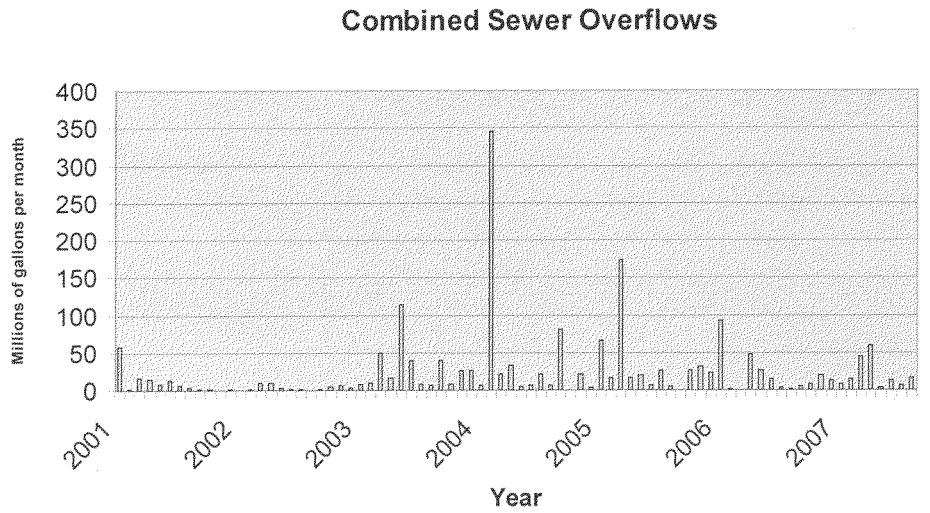
- Advisories protect the public from contact with impaired waters.
- Ensures that local health officials are aware of potential public health impacts
- Decreases inquiries from the media and public
- Builds public support for infrastructure improvements
- Increases the likelihood of timely response by owners
- Improves analysis of overflow impacts (root cause, water quality assessments, capital cost benefit)

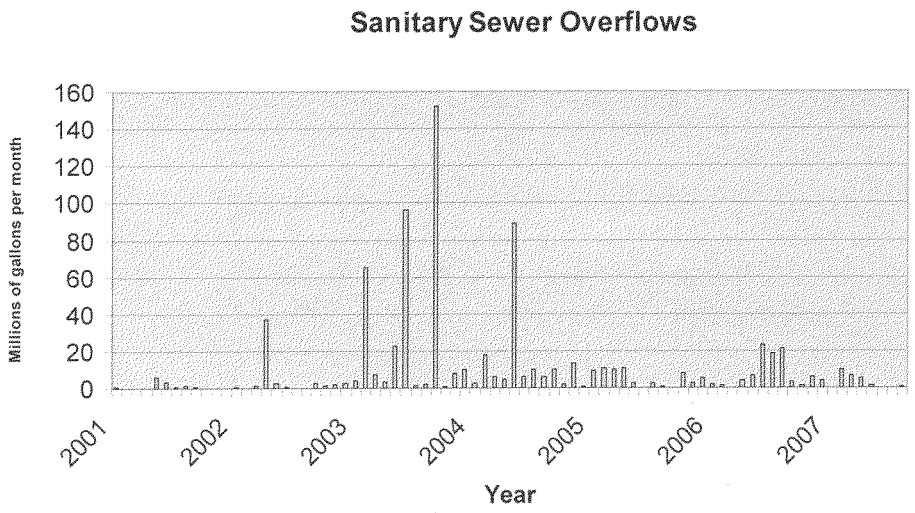
Maryland's Actions

- Initiation of reporting requirements, in cooperation with local health departments and public works officials (October, 2000)
- Governor's Task Force on Upgrading Sewerage Systems (December, 2000)
  - Cost and financing of necessary repairs
  - Public education
- Maryland legislation (April, 2001)
  - Reporting and public notification requirement

Combined Sewer Overflows (CSOs) Sanitary Sewer Overflows (SSOs)

- Since initiation of record keeping in 2001, total of 11,120 spill reports estimated at 2.7 billion gallons spilled
  - 1.9 billion gallons of CSO
  - 0.8 billion gallons of SSO
- Average of approximately 381 million gallons per year
  - 270 million gallons of CSO
  - 114 million gallons of SSO


Combined Sewer Overflows
Millions of gallons per month
400
350
300
250
200
150
100
50
0
2001
2002
2003
2004
2005
2006
2007
Year


Sanitary Sewer Overflows
Millions of gallons per month
160
140
120
100
80
60
40
20
0
2001
2002
2003
2004
2005
2006
2007
Year

Maryland Department of the Environment

CSO/SSO Spill reports available online at:

http://www.mde.state.md.us/Programs/WaterPrograms/cso_sso.asp

1800 Washington Boulevard | Baltimore, MD 21230-1718
410-537-3000 | TTY Users: 1-800-735-2258
www.mde.state.md.us

MARYLAND

October 16, 2007

Testimony Before the Subcommittee on Water Resources and Environment Regarding "The Raw Sewage Overflow Community Right to Know Act"

Stuart Whitford, R.S.
Water Quality Program Manager
Kitsap County Health District
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(360) 337-5674

Good afternoon. My name is Stuart Whitford, Water Quality Program Manager for the Kitsap County Health District (Health District). I'm here today to testify in support of H.R. 2452 "Raw Sewage Overflow Community Right to Know Act". The Health District believes that this legislation is a "win" for public health because it will result in fewer waterborne illnesses and lost recreational opportunities due to swimming beach and shellfish harvest closures.

The Kitsap County Health District was organized as a full-time public health agency in 1943. Kitsap County is a peninsula with approximately 220 miles of marine shoreline, surrounded by Puget Sound and Hood Canal. For over sixty years, we have strived to protect and promote the health of Kitsap County residents by preventing and controlling disease, injury, disability, and premature death. Our mission is to "strive to make Kitsap County the healthiest place on the planet to live, work and play."

Since 1992, the Health District and wastewater utilities in Kitsap County have been cooperatively implementing Sewage Spill Reporting and Response Procedures. The purpose of these procedures is to prevent public exposure to sewage spills through public information and notification. This is extremely critical in Kitsap County given the miles of marine shoreline we have and approximately 44,000 people collecting shellfish on those beaches annually. Since 1992, 208 sewage spills totaling **11,356,876** gallons of raw sewage, and **584,075,558** gallons of combined sewer overflows have been reported to the Health District.

The procedures require that wastewater utilities immediately notify the Health District when a sewage spill or combined sewer overflow occurs. It also requires the utility to notify property owners in the immediate vicinity of the spill, post a warning sign at the spill site, and clean up to the maximum extent possible. The Health District visits the spill site typically within one to eight hours to verify the information supplied by the utility, verify that the clean up was done correctly, and assess the need/degree of additional public notification. Public notification may include additional "door-to-door" notification, posting warning signs in the affected area, and issuing an advisory. Advisories are issued by press release, updating our Internet homepage, and updating our Public Health Advisory Hotline. If the spill has impacted a shellfish growing area or has the potential to impact a growing area, the Washington State Department of Health is immediately notified.

A recent sewage spill in Kitsap County highlights the need for H.R. 2452. At 1:30pm on June 27, 2007, the City of Port Orchard reported a sewage spill to the Health District. They reported that a small spill occurred when a gravity main plugged, forcing sewage out of a manhole onto the surface of the ground. The area was fairly overgrown with vegetation, so it appeared to City wastewater personnel that the spill was limited to the immediate area around the manhole. The plug was removed, and dolomite lime was spread on the ground in the area to soak up any remaining liquid, control odors, and inactivate pathogens.

The Health District visited the site that afternoon and verified that the main had been restored to service and the immediate area cleaned up. However, the inspector observed a fairly steep drop off just below the manhole and decided to push further into the brush just to make sure that no sewage had made it down the hill. What he saw was shocking – a fifteen-foot wide swath of grey slime oozing down the hill, with all the vegetation and trees standing lifeless. Unable to continue his investigation above the spill, he decided to get below it. He found a dirt access road down slope from the sewer main that led to a city sewer pump station, private stormwater pond, and wetlands. As he approached the stormwater pond the smell of sewage became overpowering. When he reached the perimeter fence he could see that the entire pond was filled with sewage, and every tree and shrub on its banks was dead. Looking up the hill

just above the pond, he could see the swath of sewage reaching from the top of the hill into the stormwater pond.

The City of Port Orchard and Washington State Department of Ecology were immediately notified. The City built a road to access the pond, and then pumped it's contents to the nearby pump vault. This revealed a thick layer of sludge at the bottom of the pond that had to be dealt with. The sludge was removed by August 15, 2007, completing the spill cleanup.

The Health District and the City then analyzed the pump "run-time" data for the nearby sewage pump station, immediately down-slope of the sewer main that had plugged. This data had been collected by the City on a daily basis by visiting the pump station, reading the meters, and recording the time for each pump. The pump "run time" data was graphed for the past two years, and the results were startling. We determined that the spill had actually started occurring two years previous, on June 12, 2005. Since that date, approximately **6510 gallons of raw sewage per day** had been discharging to the stormwater pond and nearby wetlands. This means that a total of **4,843,440** gallons of raw sewage had been spilled.

If the City had an "alert" system in place as required by H.R. 2452, the impacts of the spill on the environment and the City/Health District response cost could have been significantly mitigated. This is why the Health District is testifying today in support of H.R. 2452. We believe it will protect public health and the environment, and, in the long term, save taxpayer money.

This concludes my testimony. I'll answer any questions you may have.

American Public Health Association
National Association of Boards of Local Health
National Association of County and City Health Officials
Physicians for Social Responsibility

October 18, 2007

Dear Representative:

On behalf of our members and supporters across the nation, we urge you to cosponsor H.R. 2452, the Raw Sewage Overflow Community Right-to-Know Act. We strongly support this legislation and look forward to seeing it enacted this Congress.

Every year, billions of gallons of raw and partially treated sewage flow into our rivers, lakes, and coastal waters. Unknowingly, many Americans and their families risk serious illness when these spills contaminate the water they use for recreation or drinking. The bacteria, viruses and parasites found in untreated sewage can cause violent and unpleasant short-term symptoms including gastrointestinal problems, infections and fever, as well as serious chronic conditions such as heart, liver or kidney failure, arthritis and cancer. Certain groups such as children, the elderly, and those with a weakened immune system are particularly vulnerable to these long-term effects.

The Environmental Protection Agency estimates that there are 7.1 million mild-to-moderate cases and 560,000 moderate-to-severe cases of infectious waterborne diseases in the United States every year. However, these numbers could be much higher because many people that get sick from untreated sewage aren't aware of the cause of their illness and don't report it to their doctor or health official. The Raw Sewage Overflow Community Right-to-Know Act will provide a critical first line of defense against waterborne diseases by requiring public notification of sewage spills. It is critical that public health officials and the larger public receive warning of sewage pollution when these spills have the potential to affect public health.

All people deserve clean water free of the many dangerous pollutants found in sewage. Until we make significant progress towards reducing sewage in our water, there must be strong public notification programs that will alert people when there is a danger of coming into contact with raw sewage. We again thank you for your attention to this issue and urge you to cosponsor H.R. 2452, the Raw Sewage Overflow Community Right-to-Know Act.

Sincerely,

Marnie L. Glaeberman, JD, MPH
Director of Government Relations
National Association of Local Boards of Health

Donald Hoppert
Director of Government Relations
American Public Health Association

Eli Briggs
Senior Government Affairs Specialist
National Association of County and City Health Officials

Will Callaway
Legislative Director
Physicians for Social Responsibility

American Rivers ♦ Clean Water Action ♦ Environmental Defense
Natural Resources Defense Council ♦ National Wildlife Federation
Physicians for Social Responsibility
Republicans for Environmental Protection ♦ Sierra Club ♦ U.S. PIRG

October 12, 2007

The Honorable James L. Oberstar
Chairman
Committee on Transportation and Infrastructure
2165 Rayburn House Office Building
Washington, DC 20515

The Honorable John Mica
Ranking Member
Committee on Transportation and Infrastructure
2163 Rayburn House Office Building
Washington, DC 20515

The Honorable Eddie Bernice Johnson
Chairwoman
Subcommittee on Water Resources and Environment
Committee on Transportation and Infrastructure
2165 Rayburn House Office Building
Washington, DC 20515

The Honorable Richard H. Baker
Ranking Member
Subcommittee on Water Resources and Environment
Committee on Transportation and Infrastructure
2163 Rayburn House Office Building
Washington, DC 20515

Dear Chairman Oberstar, Ranking Member Mica, Chairwoman Johnson, and Ranking Member Baker:

On behalf of our members and supporters across the nation, thank you for scheduling a hearing on H.R. 2452, the Raw Sewage Overflow Community Right-to-Know Act. Our organizations strongly support this legislation and urge you to favorably report it this year.

Representatives Tim Bishop and Frank LoBiondo have introduced H.R. 2452 to prevent millions of Americans from getting sick each year by requiring public notification when untreated sewage spills into our nation's waters. This first line of defense is critical as hundreds of billions of gallons of raw and partially treated sewage are dumped into our streams, rivers and lakes every year. Many Americans are unaware when a sewage spill occurs in the local waterways where their families swim and play.

The bacteria, viruses and parasites found in untreated sewage can cause severe short-term symptoms including gastrointestinal problems, infections and fever, as well as serious chronic conditions such as heart, liver or kidney failure, arthritis and even cancer. By requiring the public to be notified when sewage spills threaten their health, we can help Americans protect their families by avoiding contaminated areas until the threat has passed.

We will soon join you in celebrating the 35th anniversary of the Clean Water Act. Despite great gains under this landmark law, nearly half of all evaluated waterways still do not meet federal water quality standards. This legislation will protect communities from unnecessary illnesses, while also raising awareness of the need to fix our nation's wastewater infrastructure.

Thank you again for scheduling a hearing on this important legislation. We look forward to working with to pass H.R. 2452 in the House of Representatives this year and enacted into law this Congress.

Sincerely,

Rebecca R. Wodder
President
American Rivers

John DeCock
President
Clean Water Action

Fred Krupp
President
Environmental Defense

Frances Beinecke
President
Natural Resources Defense Council

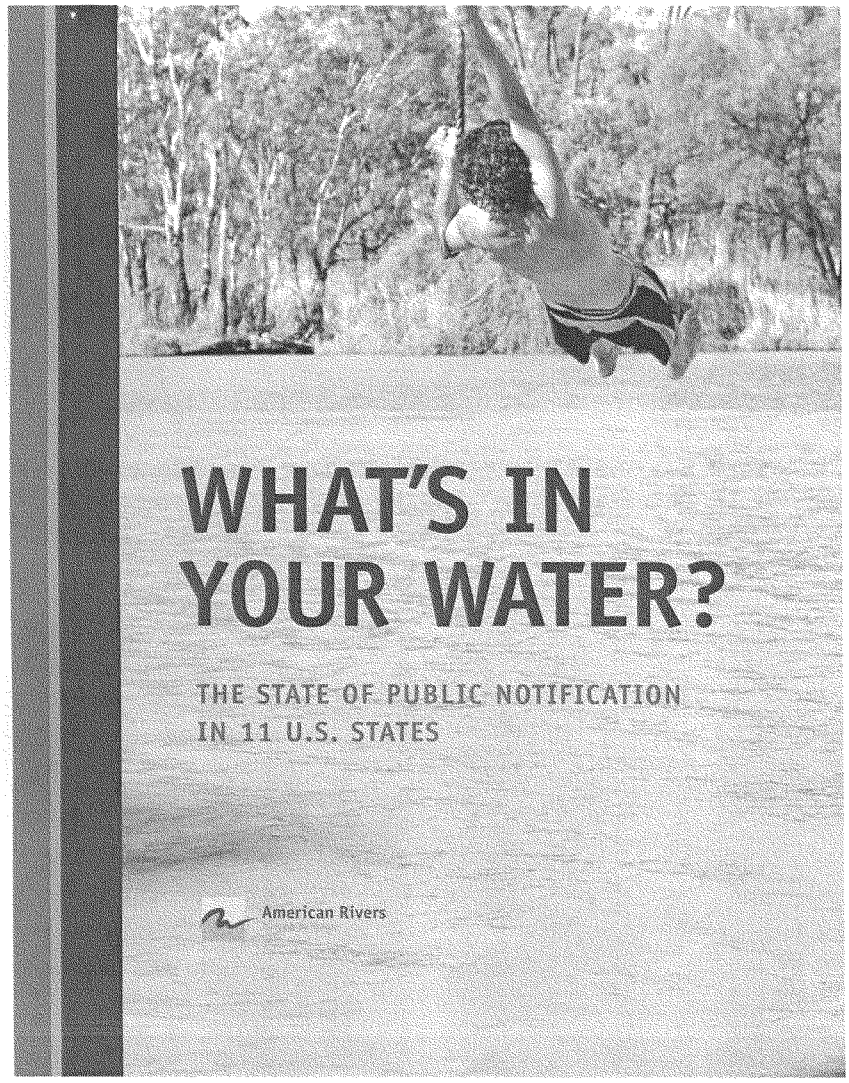
Michael McCally, MD
Executive Director
Physicians for Social Responsibility

Larry Schweiger
President and CEO
National Wildlife Federation

Martha Marks
President
Republicans for Environmental Protection

Carl Pope
Executive Director
Sierra Club

Margie Alt
Executive Director
U.S. PIRG



WHAT'S IN YOUR WATER?

THE STATE OF PUBLIC NOTIFICATION IN 11 U.S. STATES

American Rivers

Acknowledgments

Written by Will Hewes and Katherine Baer

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The authors are responsible for any factual errors. The recommendations are those of American Rivers. The views expressed in this report are those of the authors and do not necessarily reflect the views of our funders or those who provided review.

Report design: Patrice Gallagher, Gallagher/Wood Design

American Rivers is the only national organization standing up for healthy rivers so our communities can thrive. We lead national campaigns to raise awareness of river issues. We mobilize an extensive network that includes more than 65,000 members and activists to help safeguard our rivers for today and tomorrow. We also collaborate with a mix of dynamic partners to approach old challenges with bold new ideas that are backed by the latest science. Through all of our campaigns and initiatives we are dedicated to ensuring that our rivers — and our communities — are thriving by nature.

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WHAT'S IN YOUR WATER?

THE STATE OF
PUBLIC NOTIFICATION IN 11 U.S. STATES

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EXECUTIVE SUMMARY

Our clean water is threatened by aging, overburdened sewer systems that overflow more than 860 billion gallons of raw and partially-treated sewage into our rivers and streams every year. Sewage spills threaten public health, spoil recreation, hinder economic values, and harm wildlife. As pipes age and the population grows, America's overburdened wastewater infrastructure is breaking down with increasing frequency and spreading this raw and partially-treated sewage throughout streams, rivers, lakes, and beaches across the country.

As soaring growth taxes existing infrastructure, and pipes and treatment facilities age, wastewater infrastructure needs have grown to the point that an investment of $390 billion is needed over the next 20 years to meet increasing demands.[1] Until America faces this mounting problem by upgrading and maintaining sewer treatment systems, millions will continue to fall ill every year from exposure to sewage.

Knowledge must be the first line of defense to keep our friends, families, and pets safe. To minimize public health consequences, we must strengthen federal and state sewage overflow public notification requirements, so that Americans have the necessary information to protect themselves from a rising tide of sewage. Citizens have a fundamental right to know when their local streams, rivers, and lakes are unsafe for playing, swimming and fishing due to sewage pollution.

Citizens have a fundamental right to know when their local streams, rivers, and lakes are unsafe for playing, swimming and fishing due to sewage pollution.

Why You Need to Know

Where ever there are creeks, streams and rivers, people will want to swim, play and wade in them. This is certainly true of Massaponax Creek in Spotsylvania, Virginia, where sewer overflows have recurred over the past year.[2] From November 2006 to May 2007 utility workers reported 61 overflows, and each event is estimated to have sent 10,000-100,000 gallons of sewage into the creek. The frequent spills are caused by an overburdened sewer main, which cannot handle the large volumes of sewage in the system during peak hours, resulting in fecal coliform levels well above the state limit. Work is underway to repair 17 miles of sewage pipes, but the project will not be completed until 2008.

Meanwhile, area residents are living near and playing in a river that flows regularly with sewage. Unfortunately communication with the public has been woefully inadequate and many residents have been unaware of the danger. Although the state agency says that it is warning residents to stay out of the Massaponax until problems are resolved, the message does not appear to have gotten out. Signs have been posted where sewage overflows from the manholes, but not along the creek.

"We're not the only people who play in the creek. Every time I go down there, there are teenagers and dogs swimming in the creek... I'm very upset that the county waited this long and there are potential health risks to our whole family now," said Janny Sims, whose son and friends were soaked from playing in the creek.

Strong right to know policies are a smart solution to keep residents healthy.

Federal public notification regulations for sewage spills and overflows are virtually nonexistent and only a handful of states have effectively corrected this shortcoming. While a federal law is much needed to set a consistent minimum standard for public notification, each state must ultimately craft its own regulations to warn the largest possible segment of its population of sewage contamination in local waterways. Such a program should include:

- Improved monitoring of sewage systems for spills;
- Public notification in a timely manner to the broadest audience through several mechanisms;
- Notification to downstream drinking water intakes and recreation areas;
- Reporting to state environmental agencies no later than 12 hours after the spill;
- Involvement of public health agencies in assessing public health threats;
- Cumulative annual reports and audits by the state; and
- Consistent enforcement.

This report provides an overview of federal public notification requirements and then assesses public notification regulations in 11 states to provide a snapshot of sewage right to know requirements. Some states, such as Maryland, have recently adopted strong public notification guidelines and have worked diligently to ensure that they are implemented successfully. Other states, such as Kentucky, have virtually no public notification provisions and the public is unaware of the threat sewage poses to their health. Most states fall somewhere between these two extremes, with inadequate notification guidelines that are followed inconsistently throughout the state. In many states the effectiveness of public notification guidelines is greatly reduced by poor implementation and a lack of enforcement actions against treatment plants that fail to report spills. Alabama is the most striking example, where basic notification regulations are regularly ignored by the Department of Environmental Management and the regulated community. There is room for improvement in nearly every state.

INTRODUCTION

Every day, raw sewage from clogged, broken or overwhelmed sewer lines flows into our communities and waterways. While the full extent of the problem is unknown and likely underestimated, best estimates indicate that over 850 billion gallons of raw sewage from combined sewer systems flow into our waterways every year.[3] Together with the sewage from the 23,000-75,000 estimated annual sanitary sewer overflows,[4] these spills cause millions of illnesses each year.[5] The bacteria, parasites and viruses in sewage cause a wide array of short- and long-term illnesses that are especially dangerous for children, the elderly, and the immunocompromised (figure 1).

Illnesses from sewage exposure are often underreported and the problem could be far greater than the above data suggests. Sewage spills and the associated health effects are likely to worsen in coming years as the population grows, green space is replaced with impervious surfaces, and the resulting increase in stormwater runoff and wastewater overwhelms overburdened wastewater treatment systems. At the

Best estimates indicate that over 850 billion gallons of raw sewage from combined sewer systems flow into our waterways every year.

FIGURE 1 - ACUTE AND CHRONIC EFFECTS FROM WATERBORNE PATHOGENS[6]

	AGENT	ACUTE EFFECTS	CHRONIC OR ULTIMATE EFFECTS
BACTERIA	E. coli 0157:H7	Diarrhea	Death, Hemolytic Uremic syndrome
	Legionella pneumoniae	Fever, pneumonia	Elderly: death
	Helicobacter pylori	Gastritis	Ulcers and stomach cancer
	Vibrio cholerae	Diarrhea	Death
	Vibrio vulnificus	Skin and Tissue infection	Death in those with liver problems
	Campylobacter	Diarrhea	Death: Guillain-Barrè syndrome
	Salmonella	Diarrhea	Reactive arthritis
	Yersinia	Diarrhea	Reactive arthritis
	Shigella	Diarrhea	Reactive arthritis
	Cyanobacteria	Diarrhea	Potential Cancer
	Leptospirosis	Fever, headache, chills, muscle aches, vomiting	Weil's Disease, kidney damage, liver failure, death
	Aeromonas hydrophila	Diarrhea	
PARASITES	Giardia lamblia	Diarrhea	
	Cryptosporidium	Diarrhea	Immunocompromised: death
	Toxoplasma Gondii	Newborn syndrome, hearing and visual loss, mental retardation	Dementia, seizures
	Acanthamoeba	Eye infections	
	Microsporidia	Diarrhea	
	Entamoeba cayetanensis	Amebiasis, amoebic dysentery, abscess in liver or other organs	
VIRUSES	Hepatitis viruses	Liver infection	Liver failure
	Adenoviruses	Eye infections, diarrhea, respiratory disease	
	Caliciviruses	Diarrhea	
	Coxsackieviruses	Encephalitis, Aseptic meningitis	Heart disease, diabetes
	Echoviruses	Aseptic meningitis	
	Polyomaviruses		Cancer of the colon

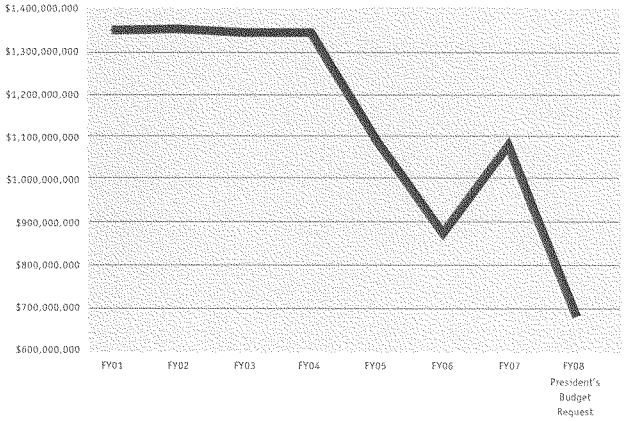
Knowledge must be our first line of defense while we work to eliminate sewage pollution.

same time, funding for clean water infrastructure has been continually cut (figure 2) and climate change threatens to aggravate the problem by altering rainfall patterns and creating more extreme weather events yielding more sewer overflows in some regions.[7]

This combination of factors leads to sewage pollution that threatens public health and the environment decades after passage of the federal Clean Water Act. Knowledge must be our first line of defense while we work to eliminate sewage pollution. Astonishingly, however, most people are unaware of local sewage overflows because of weak or ineffective notification requirements. Currently, federal notification, or "right-to-know" requirements for sewage are weak, and state requirements, where they exist, are highly variable. While homeowners recognize and act on this serious problem when sewer overflows back up into their basements where it can't be ignored, similar backups into rivers and streams don't inspire the same outrage because they are largely unknown.

Raising awareness of sewage pollution is essential for several reasons. First and foremost, this knowledge allows citizens to reduce their health risk from contact with untreated sewage. Given the extent of sewage spills, it is impera-

FIGURE 2 – DECLINE IN FEDERAL CLEAN WATER FUNDING



tive that people have ready access to this information so they can keep themselves and their families safe. Second, once people are made aware of the presence of raw sewage in their local waterways, there will be increased demand for solutions to restore clean water and reclaim local waterways for health, safety, and local economies. Widespread awareness of pollution problems generates public concern and galvanizes political pressure to fix the problem, whether on a local, state or national level. Public pressure, in turn, can motivate polluting facilities to reform. In some cases, negative publicity can be a great incentive to reduce sewage pollution from publicly owned treatment works (POTWs), especially when government oversight and enforcement is lacking.

To raise awareness of sewage problems, protect public health and ultimately reduce sewage and restore healthy rivers, notification requirements must be established or strengthened at the state and federal levels. While a federal law is much needed to set a consistent

KNOWLEDGE IS POWER

The power of public information as a catalyst for environmental improvement is illustrated by the case of toxics right to know law. As a result of public reporting requirements for toxics created by national Right-to-Know law, releases of chemicals subject to reporting dropped by 48% from 1988 to 2000.[8] By making transparent the company's polluting activities, the Toxics Release Inventory (TRI) has been effective in causing the reduction of toxic chemical releases, and there is a need to make sewage spills similarly evident.[9] Not only are right to know laws effective, but they also serve to further democratic decision making by equipping citizens with full information allowing them to participate more equally in discussions affecting their community while also promoting accountability.[10]

Given the extent of sewage spills, it is imperative that people have ready access to this information so they can keep themselves and their families safe.

AMERICAN STATES WATER LIBRARY

What You Don't Know Can Hurt You...

Illnesses contracted from pathogens in sewage are seldom pleasant affairs, but few are as gruesome as Waikiki, Hawaii resident Lisa Kennedy's experience. In March, 2006 she went surfing, unknowingly, shortly after the massive 48 million gallons sewage spill into Ala Wai Canal and subsequently contracted a bacterial infection. Kennedy is currently suing the City of Waikiki claiming that she was unaware of the spill because signs had not been posted at all access points to the contaminated waters.[11] Regardless of who is at fault, the sewage laden waters have had serious consequences. She spent nearly two weeks in the hospital and had surgery to remove the infection, which left a sizeable wound. Kennedy also incurred $42,000 in medical costs and lost months of wages.

minimum standard for public notification, each state must ultimately tailor its own policies to local conditions to warn the largest possible segment of its population of sewage contamination in local waterways.

Additionally, this information should be amplified and distributed in a meaningful way so that residents can take action, defensive and proactive, to protect public health and safety and the environment. This report summarizes the status of public notification and reporting for sewage spills, briefly at the federal level, and then more in-depth for 11 states.[12] Comparing state policies against a model policy reveals gaps in notification that highlight the need for stronger state laws and rules, and for a consistent federal requirement to provide a baseline requirement to protect all communities, regardless of state.

FEDERAL SEWAGE NOTIFICATION REQUIREMENTS

There are no nationwide public notification requirements for sewer overflows, from either type of sewage system found in the U.S., sanitary or combined sewers systems, sufficient to protect public health.

Sanitary Sewer Systems

Serving over half the U.S. population, Sanitary Sewer Systems (SSS) were designed to convey only sewage and not stormwater (figure 3). In these systems, stormwater is usually conveyed directly and untreated into local waterways. SSSs are found in all states, and municipal sanitary systems serve approximately 164 million people.[13] EPA does not have exact numbers for the amount of sewage spilled from SSSs in Sanitary Sewer Overflows (SSOs), but based on modeling EPA estimates that the annual SSO discharge is between three and ten billion gallons.[14] The primary causes of SSOs are line breaks from deterioration and lack of maintenance, line blockages, and infiltration from stormwater runoff.[15]

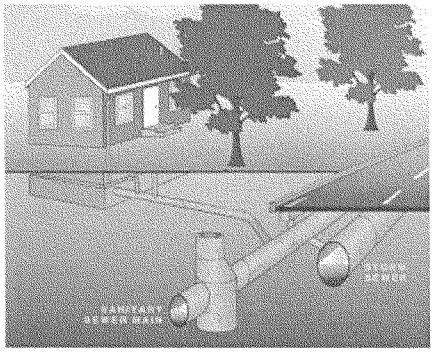
Public Notification for SSOs

Unfortunately, NPDES permits do not require public notification for sewage spills from SSSs. Instead, NPDES permit holders must report instances of noncompliance with permit conditions to the NPDES permitting authority, usually the state environmental agency, but not the public.[16] Because SSOs that result in a discharge to waters of the U.S. represents noncompliance they must be reported.[17] If the overflow or spill also may endanger health or the environment, the permittee must report this to the permitting agency within 24 hours of becoming aware of the problem, and submit a written report within five days.[18] The written submission must include the cause of noncompliance, corrective actions taken, and steps planned to reduce and eliminate similar occurrences.[19] Other cases of noncompliance that do not endanger health or the environment must be reported as part of the permittee's monthly discharge monitoring

Permit System for Sewage Discharges

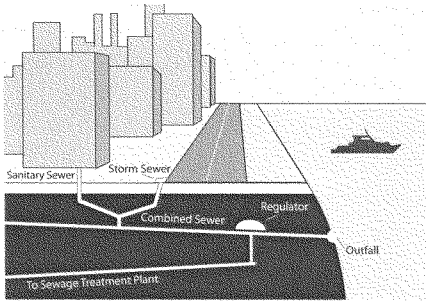
Under the Clean Water Act, pollution discharges into our waters require a National Pollution Discharge Elimination System (NPDES) permit from the state or EPA.[20] An NPDES permit includes end of the pipe effluent limits based on available technology and water quality standards.[21] Municipal sewage treatment plants require "secondary treatment" as a technological minimum, which removes about 85% of oxygen-consuming waste.[22] Many treatment plants must now upgrade to more advanced treatment technologies to meet water quality standards. Permits for sanitary and combined systems are handled differently, although neither requires timely direct public notification when there is an overflow (see below).

FIGURE 3 - SANITARY SEWER SYSTEM



Sanitary sewer systems have separate conveyance pipes for stormwater runoff and domestic sewage. Wastewater from homes and businesses is carried in one pipe to a treatment plant where it is treated before being discharged. Stormwater collects in a separate pipe and is discharged into local waterways.

FIGURE 4 - COMBINED SEWER SYSTEM



Combined sewers transport domestic wastewater and stormwater to the treatment plant together in one pipe. During rain storms, the volume of water in the pipes is often too great for a CSS and untreated sewage is released directly into local waterways prior to the treatment plant. CSSs are generally older treatment systems and are found primarily throughout the Northeast, Great Lakes and Northwest.

CAUSES OF SSOS

- **Pipe blockage:** One of the most common causes of SSOs is pipe blockages. Debris can clog sewer lines and cause effluent to overflow out of manholes or other openings. Cooking grease can also cause blockages when it solidifies in sewer lines.
- **Line break:** Tree roots cause breaks in sewer pipes, allowing sewage to spill out. Construction activities also cause breaks in sewer lines.
- **Inflow/Infiltration:** Stormwater can enter sanitary sewer systems through manholes or holes in pipes. The excess flow can overwhelm the system and cause an overflow. Overflows due to I/I tend to have higher volumes than other overflows.
- **Malfunctioning pumping stations:** Power failures or a malfunction at a pumping station can cause sewage to overwhelm a part of the system and spill into surrounding areas.

reports (DMRs) that are submitted to the state or federal permitting authority.[23] While there are no federal requirements for public notification of an SSO, states can require and individual permits can include public notification provisions.

A proposed SSO rule that was rescinded at the beginning of President Bush's term in 2001 would have expanded and strengthened public notification by requiring:[24]

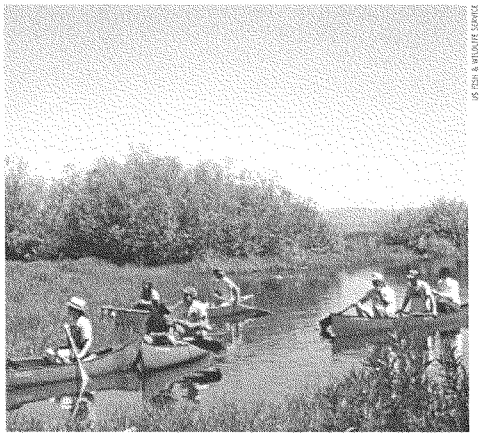
- Immediate reports to the permitting authority including SSOs that do not reach waters of the U.S.;
- Immediate notification to the public, public health agencies, drinking water suppliers, and others of SSOs that may imminently and substantially endanger human health;
- Clarified requirements for what information about SSOs should be reported on DMRs;
- Publicly available annual reports summarizing all SSOs; and
- Posting of overflow locations where there is a potential to affect human health.

Combined Sewer Systems

Combined Sewer Overflows (CSOs) are from sewer systems designed to convey sewage and stormwater together for treatment (figure 4). During wet weather, these combined systems overflow into local waterways, releasing untreated sewage and disease-causing pathogens. Forty-six million Americans in 32 states and the District of Columbia are served by combined sewer systems and EPA estimates that 850 billion gallons of untreated sewage and stormwater or released annually.[25]

Public Notification for CSOs

Public notification is one of the required Nine Minimum Control Measures (see box this page), with the goal to inform the public as to the location and occurrence of CSOs and the public health effects.[26] However, EPA does not impose specific requirements for notification, because the "mechanism will probably vary with local circumstances."[27] EPA has provided some guidance for what types of notification may satisfy the CSO Control Policy, including posting at affected use areas, posting at selected public places, posting at outfalls, placing notices in local media, letter notification to affected residents, and a telephone hotline, all of which could suffice.[28] An analysis in the Great Lakes revealed that public notification for CSOs is highly variable and may be required via permit, rule or legislation.[29] Some states, such as Michigan, require real time reporting by the sewer plant operator to the state environmental agency, public health departments, and the local newspaper.[30] In contrast, in Minnesota, permittees are merely required to post identification signs at CSO outfalls.[31] Even in Michigan, where reporting requirements are strong, both CSOs and SSOs have been underreported.[32] Likewise, in Kentucky, some CSS permits require notification while others do not, reflecting the inadequacy of current regulatory policy.



US FISH & WILDLIFE SERVICE

Regulation of CSOs

Although CSSs are covered under the NPDES permitting system, they are not required to meet secondary treatment standards.[33] Instead, EPA issued a CSO control policy in 1994 that was subsequently codified in the Clean Water Act.[34] The CSO Control Policy requires that each CSO permittee meet nine "minimum control measures"and develop a long term control plan if necessary to meet water quality standards by incorporating these requirements into NPDES permits.[35] The Nine Minimum Control Measures include operation and maintenance, maximizing storage and treatment of wastewater, and public notification, among others, and if implemented are designed to meet the objectives of the Clean Water Act while providing flexibility.[36] Thus far, compliance with requirements to implement the nine minimum control measures and develop long term control plan has been inconsistent.[37]

Based on modeling, EPA estimates that the annual Sanitary Sewer Overflow (SSO) discharge is between three and ten billion gallons every year.

MODEL STATE POLICY FOR SEWAGE SPILL NOTIFICATION

Public notification and reporting of sewage spills is key for public safety.

Given the skeletal and insufficient nature of federal notification requirements, states can play an important role in filling this public safety gap by requiring public notification and reporting. The following model notification program would achieve maximum awareness of sewage pollution, protect Americans from waterborne disease, and catalyze public support for solutions to reduce sewage pollution in the future. Such a program would include:

- Improved monitoring of sewage systems for spills;
- Public notification in a timely manner to the broadest audience through several mechanisms;
- Notification to downstream drinking water intakes and recreation areas;
- Reporting to state environmental agencies no later than 12 hours after the spill;

When Spills Go Unreported...

In April 2007, a fist-sized hole in a sewer pipe in Des Moines, Iowa allowed untreated sewage to leak from the system. The spill went undetected until it began bubbling up onto the streets near an intersection. Some of the sewage flowed into a nearby creek. Stronger system monitoring procedures would have allowed officials to contain the spill before it became a hazard to public health.[38]

- Involvement of public health agencies in assessing public health threats;
- Cumulative annual reports and audits by the state; and
- Enforcement.

Improved Spill Monitoring

A critical first step necessary for effective public notification is knowing when an overflow occurs. In some cases, when a pipe bursts, workers may not know about the spill for hours or days. If sewage treatment plant workers and operators are unaware of spills, timely SSO reporting is unachievable thus precluding useful public notification. It is essential that wastewater treatment facilities work to improve monitoring throughout their entire collection and treatment infrastructure. To improve monitoring, states should require each POTW to submit overflow detection plans that may include technological solutions such as installing cameras throughout the system. In conjunction with strong reporting requirements and consistent enforcement this could significantly cut the number of unreported spills.

Public Notification

There are a variety of public notification methods, and states should use the optimal combination of newspaper notices, phone hotlines or email to reach the broadest possible audience in a timely manner. Different segments of the population receive their information from different

sources, and each state must make an effort to reach as many residents as possible by choosing the most effective methods of notifying their citizens of sewer overflows given their population characteristics. Ideally every state would choose several methods to reach as large a segment of the population as possible.

Prominent notices in newspapers and on TV newscasts can be an effective way of reaching many residents if they are timely enough to allow residents to avoid contact with sewage. In some states, such as North Carolina, POTW workers can wait 48 hours before contacting the media, rendering the purpose of public notification largely useless. In addition, states must ensure that media outlets consistently print or broadcast overflow notices. In several states, media notification is required, but notices are seldom published. Maryland avoids this problem by requiring POTWs to place paid advertisements in the paper. Although this might not be feasible in certain media markets, each state must consider this challenge if they decide to use the media as a primary method of public notification.

A quicker way of reaching people is direct notification via the phone or internet. Few states currently use the internet or phone hotlines to notify the public of sewer overflows, even though they are inexpensive and easy to implement. Certain municipalities and counties such as Portland, Oregon send interested residents emails when there is an overflow. Others, such as Kentucky's Sanitation District No. 1, maintain a phone hotline that tells residents whether there is an overflow alert in effect. Finally, the Michigan Department of Environmental Quality is required to maintain a website "promptly" listing information about sewage spills. Each state should adopt at least one of these methods of notification, as they offer cheap and effective means of communicating with affected citizens. These direct notification methods can be especially effective in communicating risk to regular recreational users that are at the highest risk of contact with sewage.

BOB NICHOLS, USDA

Posting signs at sewer outfalls and public access points to recreational waters is an essential means of notifying the public of dangerous pathogen levels. POTW workers and operators should be required to post signs at these points as soon as possible, but no later than 24 hours after becoming aware of a spill. The signs should be designed or approved by the state environmental agency or public health department to ensure that they are visible and readily comprehensible. The signs should either be in multiple languages corresponding to the local population or use universal warning symbols.

Notifying public water intakes and other downstream water users is one of the most important steps for protecting public health and avoiding treatment plant problems.

River Alert Programs

While this report focuses on public notification after a known spill from a sewage collection system, river alert programs offer another, more proactive approach to informing the public that local waterways are contaminated. In Philadelphia, the Philly Rivercast program forecasts potential pathogen levels in a portion of the Schuylkill River and uses the forecasts to make recommendations about safe use of the river. It also serves as an early warning system for drinking water contamination. The city used historical data to determine the relationship between water quality, stream flow and rainfall. Using this relationship, they can now predict bacteria levels by analyzing rainfall, stream flow and turbidity in real time. By using these predictors of pathogen presence, Philadelphia does not have to wait for time-consuming lab tests to determine whether there is a health risk. Using this relationship, the city makes recommendations about the safety of various recreational activities on the river that day and posts this information on their website where it is easily accessible. Similar programs exist for the Chattahoochee River in Atlanta, for the Charles River in Boston, and others around the country.

For more information visit:
http://www.phillyrivercast.org/

ANACOSTIA WATERSHED SOCIETY

Finally, although few states currently require it, notifying public water intakes and other downstream water users is one of the most important steps for protecting public health and avoiding treatment plant problems.[36] Water intakes must know when source waters are contaminated so that they can take additional steps to protect drinking water. Workers at shellfish harvesting areas must also be notified so that contaminated harvests are not put on the market.

Reporting to the State

Nearly all states currently require POTW workers to notify the state environmental agency of overflows within 24 hours of becoming aware of the spill, but the most protective programs require more rapid reporting. Certain states such as Washington require immediate reporting when an overflow threatens shellfish areas, while Iowa is considering a 6 hour notification limit. Ideally, states would require POTW workers to report spills as soon as possible but no later than 12 hours after the spill. This would allow governments to react to spills more rapidly and decrease the risk to public health. There is little reason why workers would be unable to report spills within several hours of discovery.

STAKEHOLDERS.ORG

Annual Reporting

Thorough oversight by enforcement agencies is also an essential part of public notification. State environmental agencies should review each POTW's performance on an annual basis to determine what steps, if any, are necessary to decrease overflows. Environmental agencies can either require POTWs to submit annual reports of overflows or maintain a database of all reports for later synthesis and review. This database, or the reports, should be made publicly available, as they are in Michigan, as a further means of providing transparency and accountability. For either approach, it is important to maintain a systematic approach to monitoring and reducing overflows.

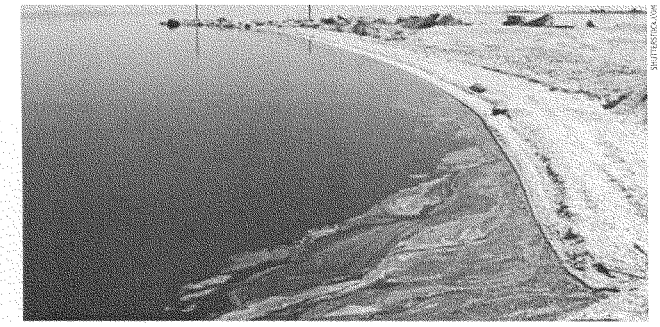
Public Health Agency Involvement

Another important component of public notification programs is the involvement of public health officials. In some states, health departments are not involved in notifying the public of overflows, while they have primary responsibility for notification in other states. In Virginia, for example, the health department may send a notice to newspapers when it deems an SSO threatens public health (although these notices are rarely printed).

A Model of Health Department Involvement

Treatment plant operators in Kitsap County, Washington, are required to report sewer spills to the County Health Department. The Health Department provides quick and effective public notification by ensuring that signs are posted in the spill area and alerting the media with health advisories. The Health Department also works with the treatment plant to ensure clean up.

For more information: http://www.kitsapcounty-health.com/environmenta_health/water_quality/sewagespills.htm



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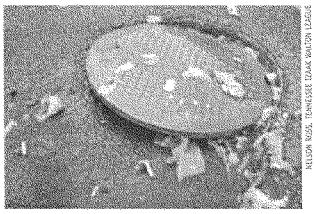
Numerous states in this study are already lacking in basic enforcement of water pollution permits.

While it is not imperative that the health department notify the public or post signs, they should be integrally involved in some capacity, as they have expertise in communicating health



NELSON ROSS, TENNESSEE CLEAN WATER NETWORK

risks to the public. Additionally, public health agencies should be aware of sewage spills so they can better track illness occurrences and outbreaks that might otherwise be overlooked. POTW workers and operators should therefore contact public health officials of overflows on the same timely basis as environmental agencies.

Enforcement

Adopting the above recommendations is an important step towards protecting the public from the billions of gallons of untreated sewage released into American waterways every year, but passing new laws will only be as good as their enforcement. Numerous states in this study are already lacking in basic enforcement of water pollution permits. Many environmental agencies do not have the resources or political will to identify, penalize and remedy sewer spills or discharges of other pollutants to state waters. Wastewater treatment facilities across the country may not report spills because there is little chance they will be held accountable. Thus passing new regulations is not a panacea, but a first step. State environmental agencies must also be given the resources to prevent sewage pollution and impose strict penalties to deter noncompliance, and funding for clean water infrastructure must be restored.

Notification at Coastal Beaches

The federal BEACH Act provides grants to states to monitor beaches on coastal waters and in the Great Lakes and alert the public when there are elevated bacteria levels.[10] This is an important step to protecting public health, but places the responsibility on states to monitor waters without a similar duty for wastewater treatment plants and other polluters to alert the public when there is a spill. Notably, the BEACH program does not apply to inland freshwater streams, rivers, and lakes.

EVALUATION OF STATE NOTIFICATION PROGRAMS AND POLICIES

Sewage spill notification programs from 11 states throughout the country were evaluated against components of the model program.[41] Research on state laws, rules, and policies was supplemented by speaking with state agency personnel and conservation organization staff (the methodology used for selecting states and researching state programs is detailed in Appendix A). The chart below indicates the extent to which residents are at risk of unknowingly coming into contact with sewage based on the information available to them.

The more detailed chart on page 19 summarizes the findings of this report and reveals the great disparity between state programs – some have excellent procedures and implementation while others have virtually no right-to-know requirements. These findings underscore the vital need for a strong and consistent federal right-to-know requirement, as well as the great opportunity for states to implement robust and tailored programs to best protect their citizens. Further, the results highlight the central importance of implementation for states such as Alabama, which have a number of notification measures on the books, but a complete lack of implementation that negates the requirements and keeps the public in the dark.

Notification Programs and Policies by State

	States	Description
RED ALERT	Alabama, South Carolina, Kentucky, Tennessee	No public notification regulations on a statewide basis and/or a complete lack of implementation
ORANGE ALERT	Georgia, North Carolina, Virginia, Iowa, Oregon, Washington	Information is available sporadically, only for certain kinds of spills, or only in certain parts of the state
GREEN ALERT	Maryland	Strong public notification measures and successful implementation

FIGURE 5 - PUBLIC NOTIFICATION SUMMARY CHART

	AL	GA	SC	NC	TN	KY	VA	MD	IA	OR	WA
MUST NOTIFY											
State Environmental Agency within 24 hours	+	+	+	+	+	+	+	+	-	+	+
Health Department	+	+	-	-	-	-	+	+	-	+	+
Downstream users	+	+	-	-	-	-	-	+	+	+	+
PUBLIC NOTIFICATION METHODS											
Media	+	+	-	+	-	-	-	+	+	+	+
Signs at every overflow	-	+	-	-	-	-	-	+	-	+	-
Annual report from each plant	+	-	-	+	-	-	-	-	-	-	-
Direct notification (phone or internet)	-	-	-	-	-	-	-	-	-	-	-
DEGREE OF IMPLEMENTATION (1-5) (one is lowest and five is highest)	1	2	2	3	2	1	3	5	4	3	3

ALABAMA

A vague notification law on the books, and little to no implementation by the state environmental agency.

State Requirements

Alabama has vague reporting and public notification regulations and has been unsuccessful in implementing even these requirements. The state's administrative code requires owners and operators of POTWs to report any unpermitted discharges to the Alabama Department of Environmental Management (ADEM) within 24 hours of becoming aware of the spill and to submit a written report of the spill within 5 days.[42] This report must contain a description of the event, the timeframe of the spill, and actions taken to prevent future spills.[43] In addition to these general requirements, owners and operators are required to report SSOs to ADEM, the public, the county health department, and other affected entities such as public water systems as soon as possible.[44] There are no special regulations for CSOs because Alabama does not have any CSSs. Treatment plants are also required to file annual reports with ADEM detailing many aspects of their plant's performance, including the number of SSOs they have experienced in the past year. If POTWs have a large number of SSOs and are not addressing the problem, ADEM may take enforcement actions against the plant.[45]

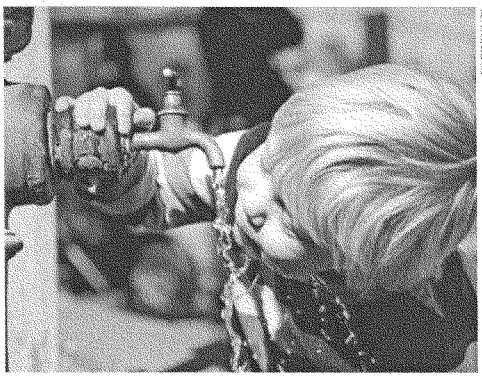
Implementation

Alabama's regulations ostensibly provide for reporting and public notification of sewage overflows, but they are vague and largely ignored by ADEM and POTWs. The regulations do not specify how the public is to be contacted or establish a timeline for notification. Most importantly, there appears to be a complete lack of enforcement by ADEM. It is unclear what percentage of spills is reported to the state at all and there are few repercussions for failing to report. ADEM officials maintain that they are aware of most overflows but admit that treatment plants report sewage spills with varying degrees of diligence; some of them report spills as small as 100 gallons, while others only report larger spills or none at all.[46] There is little incentive to fulfill reporting requirements, as polluters in Alabama rarely face any repercussions for failing to comply with regulations.[47] In addition, many of the overflow reports ADEM receives

are inaccurate and do not provide adequate estimates of the volume of the overflow.[48]

The mode of public notification varies across counties and there is no consistent process for determining which spills trigger notification. ADEM does not coordinate regularly with public health departments or ensure that they or the public have been notified as required by law.[49] Further, ADEM does not know whether either requirement has been fulfilled unless there is a large spill and it is brought to their attention that public health officials aren't involved.[50] As a result of Clean Water Act violations and subsequent legal action, certain municipalities, such as Mobile, have stricter public notification requirements.[51] On the statewide level, however, there is a lack of consistency and enforcement of the notification requirements.

As a result of these shortcomings, there is very little awareness of sewage overflows among the public.[52] While some larger spills might be publicized, most are not, and public health officials are either not informed of most spills or do little to publicize them.[53] Although strengthening public notification is currently not a top priority for environmental groups there is an environmental coalition to reform ADEM and force it to perform its duty of protecting the environment.[54]



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Analysis and Opportunities

Alabama needs stronger public notification regulations that will keep citizens of the state informed of the dangers of sewage pollution in their waterways. Improvements to existing regulations should clarify what spills are to be reported and establish consistent procedures for fulfilling the public notification requirements in the state's administrative code. Ultimately, the public would benefit from implementing internet or phone notification of spills. If there is to be any chance of success, however, ADEM must be willing and able to enforce these regulations, and at present this appears unlikely.

Georgia

Strong regulations, but uneven enforcement.

State Requirements

Georgia adopted public notification requirements for sewer overflows in 2001 in response to widespread concern among residents about public health threats from upstream sewage spills.[55] Previously, treatment plant owners were only required to report "major" spills to the Environmental Protection Division (EPD) — defined as any release of raw sewage in excess of 10,000 gallons or causing water quality violations – and there were no public notification requirements.[56]

Current regulations require the owner of a POTW to immediately notify the EPD in person or by telephone of any spills that occur in the system.[57] They must also follow up with a written report within five days of the incident. The report must include, at a minimum, the date, location and volume of the spill as well as measures taken to reduce the spill's impact. The owner must also report the spill to public health departments in the area and notify the public in several ways.[58] They must report the incident to local media including television, radio, and print sources within 24 hours. They must also post notices where the spill occurred, where it enters state waters and at downstream public access points, although it is left to POTW workers to interpret these rules and place the signs.[59]

A subset of Georgia's notification regulations only apply to major spills. The owner or opera-

tor responsible for a major spill and the EPD are both required to notify all county, municipal and other public agencies whose water supply is within 20 miles downstream and any others that might be affected.[60] The owner must also publish a notice of the spill in the official media source of the county, which is published within seven days of the incident. Finally, the treatment plant must establish a comprehensive water monitoring program of waters affected by a major spill for at least one year at their own expense. The results are provided to all downstream public agencies using the waterway as a public water supply source.[61]

Implementation

The impact of Georgia's strong public notification guidelines is greatly reduced by a lack of effective implementation or enforcement. There has been an overall increase in reporting since the introduction of the new regulations, especially in sensitive, high-growth areas such as Atlanta, where spills trigger automatic enforcement actions.[62] However, there is still widespread noncompliance with reporting regulations, and the public remains uninformed of many spills.[63] One of the largest problems is that many treatment plants do not regularly report spills due to the lack of enforcement for non-reporting. Although there are fines for failure to report spills (in addition to noncompliance penalties), treatment plants that are violating their NPDES requirements may decide not to report assuming that EPD does not have the resources to investigate or take enforcement actions, and in many cases they are correct.[64] Even when penalties are assessed, they are not sufficient to encourage POTW owners to address the underlying overflow problems, as fines are significantly less costly than capital improvements necessary to address the problem.

In addition, public notification is not reaching many parts of the population. Larger spills are publicized on television, but many smaller spills are not reported in the media, and posting of contaminated waterways is erratic.[65] Despite these shortcomings, there are localized efforts to improve public notification in areas with chronic overflow problems and poor reporting records such as the City of East Point.[66]

PHOTO BY S. TENNESSEE EDUCATION LEAGUE

Analysis and Opportunities

Georgia's notification requirements are a model for the region, but they need to be accompanied by increased enforcement and improved implementation. EPD needs additional resources to ensure that spills are being reported, and it needs to increase penalties to discourage intentional non-compliance with notification regulations. The agency could also benefit from improving its methods of outreach to the public. EPD either needs to ensure that spill notices are picked up by local media outlets or create a website or phone hotline to notify the public. Additional resources and stronger implementation would make Georgia a regional leader in protecting public health from sewage pollution.

South Carolina

Weak notification laws with uneven enforcement.

South Carolina has minimal reporting and notification requirements. All sewage spills that enter state waters or have a volume greater than 500 gallons must be reported to the Department of Health and Environmental Control (DHEC) within 24 hours.[67] DHEC also requires POTW owners to submit an SSO reporting form within 5 days of a spill.[68] Regional DHEC water officers decide whether or not to contact public

health officials, and there is no set policy outlining which spills warrant their involvement.[69] There are no regulations requiring DHEC or POTWs to contact water intakes or other downstream users, although DHEC sometimes notifies them.[70]

There is virtually no public notification of spills in South Carolina. DHEC may require POTW owners and operators to post signs at sewer outfalls, but it exercises that authority irregularly, on a case by case basis. There is no statewide requirement that POTW operators or agency staff notify media outlets or contact the public directly, and a DHEC official could not recall ever contacting a newspaper to notify them of a spill.[71] However, an environmental reporter for the Columbia-based newspaper *The State* has received occasional reports of spills from DHEC but suspected that there were many more spills for which he didn't receive notice.[72]

There has been a push for stronger public notification in recent years. A bill was introduced in the State Legislature in 2002 that would have required DHEC to notify the public and downstream users of unpermitted sewage spills, but the bill did not make it out of committee.[73]

Implementation

Even the minimal reporting and notification requirements currently in place in South Carolina do not function effectively. Many overflows go unreported and DHEC may be unaware of as many as half of all spills.[74] Anecdotal evidence further suggests that communication between DHEC and POTWs is inadequate. For instance, a 2007 news article revealed that DHEC did not have any record of overflow reports submitted by the city of Greenville.[75] A city employee claimed they reported all 13 unpermitted discharges in 2006, but a DHEC official admitted that they were "not sure where they're sending those reports."[76] Furthermore, the only form of statewide public notification, posting signs at outfalls, is lacking. At one park in Columbia with a canoe launch directly downstream from a sewer overflow point, there are no signs warning the public.[77]

Opportunities and Analysis

Although the sponsor of the 2002 bill is no longer in the legislature, adopting the requirements in that bill would be a good first step towards strengthening South Carolina's notification procedures. The following steps would provide a comprehensive program that would greatly reduce the threat to public health. First, officials should require that POTW owners report all spills to DHEC, not just those that reach state waters or exceed 500 gallons in volume as is currently required. Spills that do not require reporting under current guidelines could still pose a threat to human health. The state also needs to clarify procedures for contacting public health officials, posting outfall points and notifying downstream communities. These actions should be undertaken in any circumstances where there is a threat to public health. In addition, the state must work to inform its citizens of sewage spills by requiring POTWs to report spills to media outlets in a timely manner and preferably by directly notifying residents through email, internet and phone hotlines. South Carolina must furthermore strengthen enforcement and work harder to ensure that current reporting guidelines are being followed.

North Carolina

A partial public notification law with key omissions and irregular enforcement.

State Requirements

North Carolina has the beginnings of a successful public notification program. POTW owners and operators are required to report spills to the Division of Water Quality (DWQ) within 24 hours.[78] They are also required to submit an SSO reporting form to the regional DWQ office within 5 days of becoming aware of an SSO.[79] While reporting to DWQ has been required since the early 1990s, public notification requirements were legislated in the North Carolina Clean Water Act of 1999.[80] These new requirements were written in response to public concern over a series of high profile sewage spills throughout the mid to late 1990s.

The 1999 changes to North Carolina state law require the owner or operator of a treatment plant or collection system to issue a press release to all electronic and print media sources in the county within 48 hours of any sewage spill over 1,000 gallons that reaches state waters.[81] Discharges to state waters of over 15,000 gallons require owners or operators to publish a notice of discharge in a major newspaper in any counties affected by the spill within 10 days.[82] The bill also mandates that POTW owners provide customers and the Department of Environment and Natural Resources with an annual report on the treatment plant's performance, including any violations of laws or regulations such as unpermitted sewage spills.[83]

Implementation

North Carolina's reporting and public notification regulations have been successfully implemented in parts of the state, especially urban areas. POTWs in heavily populated areas diligently report spills to DWQ and news outlets.[84] A survey of media outlets reveals numerous reports of sewage spills, especially in the New Bern area. The DWQ ensures that owners are aware of their reporting responsibilities by issuing a comprehensive set of NPDES reporting requirements to treatment plants. Groups such as the Neuse Riverkeepers have contributed to program success and have been very involved in ensuring that spills are reported and publicized.[85] They have developed relationships with workers at POTWs and receive personal notification when there is a spill. As a result of this external oversight, most POTW owners within this watershed are diligent about reporting spills and notifying the public for fear of negative media attention and enforcement by state environmental officials.

Despite these successes, there are a number of key shortcomings that diminish the effectiveness of the public notification regulations. To begin, DWQ enforcement of sewage spills and notification regulations is erratic and occurs consistently only in certain well-populated areas.[86] In rural areas that lack dedicated environmental groups, enforcement is less stringent. There is less risk of being punished for failing to comply with reporting regulations, and the DWQ has insufficient resources to enforce the regulations throughout the state.[87] Uneven enforcement is compounded by the fact that health department involvement in public notification varies by county[88]. There is no statewide requirement to post overflow sites or notify downstream water users or health departments of overflows. However, certain county health departments diligently post signs and notify downstream users such as shellfish harvesters while others do not.[89] Finally, overflow notices in media outlets are ineffective at present. The 48 hour deadline for issuing a press release does little to protect public health,[90] and the notices aren't always published or presented in a manner that attracts public attention.[91]

Analysis and Opportunities

Despite having some of the stronger regulations in the region, North Carolina needs to take steps to increase the effectiveness of its public notification requirements. First, the state must shorten the time period for issuing press releases and work with POTW operators and media outlets to ensure that notices are printed. The state should also supplement media notices with direct notification methods such as email or phone hotline notification. These methods could significantly

increase the visibility of sewage spills. The state would also benefit from defining the role of local health departments, establishing guidelines for posting at outfalls and requiring notification of downstream users. This would increase the regularity and dependability of sewer overflow notification. Finally, the state must increase enforcement actions for NDPES permit violations in rural areas.

Tennessee

Very limited public notification and poor implementation.

State Requirements

Owners and operators of POTWs are required to report any unpermitted discharges to the Tennessee Department of Environment and Conservation (TDEC) within 24 hours of becoming aware of the spill, and they must also follow up in writing within 5 days.[92] They are not required to contact the health department, although the Water Pollution Control Office of TDEC notifies them in the case of large spills.[93]

The only form of statewide public notification is the posting of signs at chronic overflow points. Signs are posted at the discretion of the commissioner of TDEC, and are placed at most outfalls where water quality guidelines are exceeded or where there is a high potential for human contact with sewage.[94] Some POTWs with a history of sewer overflows have consent decrees that require stronger public notification measures.[95] Knoxville, for instance, posts signs at overflow sites, issues media releases, maintains a website that lists all SSOs within 24 hours of being reported [96] and even distributes door hangers in certain cases.[97] These measures were motivated by a citizen's lawsuit in response to the city's poor record on reducing overflows and notifying the public.[98]

Implementation

TDEC's implementation of reporting and notification regulations is uneven and insufficient in many parts of the state. There are POTWs that do not comply with reporting regulations, and the modest penalties provide little incentive for dishonest POTW owners and operators to reform.[99] There is disagreement on this point, as a TDEC official maintained that past penalties for non-compliance had discouraged further violations.[100] In many parts of the state there is virtually no information available to the public about sewer overflows, and little awareness of sewage pollution in general.[101] Signs posted at outfalls are too small to be effective and are not maintained.[102] Thus even this basic form of public notification is ineffective. One exception is Knoxville, where media notices and signs are prevalent and keep the public well informed.[103]

Analysis and Opportunities

Tennessee needs to begin building a public notification program to protect its citizens from sewage pollution. To begin, they should require POTW owners and operators to inform downstream water intakes and local health departments of spills. They must also institute a statewide requirement that the public be notified through the media and preferably through other methods such as the internet and phone hotlines. Requiring annual reports from POTWs would also help TDEC identify chronic violators and reduce untreated discharges.

Kentucky

No public notification and little effort to reduce sewage pollution.

State Requirements

POTW owners and operators are required to report all spills to the Division of Water within 24 hours and to follow up in writing within 5 days.[104] Reports must be made to both the central office of the Division and the regional office where the spill occurred.[105] This regulation pertains to any type of spill including CSOs and SSOs, even if they do not reach state waters.[106] There is no requirement to contact health departments or downstream communities of spills.

There are no statewide public notification requirements in Kentucky at present. The Division of Water posts waterways that regularly exceed water quality criteria, but there is no posting after individual spills.[107] NPDES permits

for a handful of the state's 17 CSO communities require municipalities to post signs at CSO outfalls as required by federal law, and the state is pursuing consent decrees that would include a posting requirement for all of these communities.[108] In addition, 40 communities have SSO control plans, but none of these include public notification requirements.[109] The state is planning to revisit the SSO control plans in 2007 and may incorporate signage requirements.[110]

One exception to Kentucky's lack of public notification requirements can be found in Northern Kentucky's Sanitation District Number 1, which has a model notification program. The district came under a consent decree in 2005 after repeated sewage discharges in violation of the Clean Water Act.[111] Under the consent decree the district was required, among other things, to notify the public of sewer overflows, and it has initiated an ambitious program to accomplish that goal. The district sends email alerts and maintains a phone hotline that informs residents of CSOs in their area.[112] The district also issues advisories when precipitation sufficient to trigger a CSO (0.25 inches or above) is predicted. Finally, the district diligently posts warning signs near all CSO outfalls.

Implementation

Local groups agree that there is very little information available to the public about sewer overflows.[113] While some more informed residents in larger cities may be aware of sewage pollution issues, the majority of the state's citizens remain unaware. Compounding the lack of publicly-available information is DEP's general reluctance to take enforcement actions or levy substantial fines against POTWs for overflows, and there is thus little incentive to reduce pollution.[114] Only Louisville and Sanitation District No. 1 regularly pay fines due to automatic penalties under consent decrees.

Analysis and Opportunities

Kentucky needs to begin building a public notification program to protect residents from sewage pollution. Untreated waste from sewage treatment plants is the third most important source of water pollution in Kentucky, impairing 13% of the state's monitored waterways.[115] The state must involve local health departments to help determine the threat a spill poses to human health, and institute regulations requiring notification of downstream water intakes. Finally, the state should follow the lead of Sanitation District No. 1 and institute strict posting guidelines as well as phone hotlines and web notification to inform residents of bacterial contamination of their waterways. While the Water Division's plan to institute posting requirements in SSO control plans is a first step, Kentucky has the opportunity to create a more effective body of notification regulations that will protect the public from a major source of water pollution.

Virginia

Little notification at present but additional requirements under consideration.

State Requirements

Virginia currently has basic reporting and notification requirements that could be significantly strengthened, as the Department of Environmental Quality (DEQ) is considering regulatory changes. At present, state law requires reporting of all unpermitted wastewater discharges, includ-

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ing SSOs and discharges from satellite collection systems that do not have permits, to DEQ.[116] DEQ receives these reports and notifies the Virginia Department of Health (VDH) of any spills that are over 1,000 gallons in volume or last longer than 24 hours.[117] There are no regulations requiring notification of downstream communities or annual reports from POTWs.

Virginia has few public notification provisions at present. When the health department deems that an SSO poses a threat to human health, it sends a press release to newspapers. Newspapers do not routinely report on SSOs, however, and a DEQ official could not recall ever seeing notice of an overflow in a newspaper.[118] There is no requirement to post signs at outfall sites and posting does not occur regularly.[119]

Because these requirements are clearly insufficient to protect public health, DEQ and VDH are in the process of revising notification procedures. The dual agency committee to address new notification is expected to reconvene soon, and new regulations may be in place in 2007.[120] The committee is considering implementation of posting requirements and ways to improve media notification and health department involvement. They are also considering creating a website for reporting and public notification of sewer overflows.[121]

Virginia's three CSO communities have different reporting requirements. Overflows are only reported to DEQ in annual reports.[122] The only method of public notification commonly employed is posting notices where CSOs enter state waters and at recreational access points. These signs are inspected weekly and replaced when necessary. Officials concentrate on educating residents about the connection between rainfall and CSOs rather than notifying them of each individual occurrence. [123]

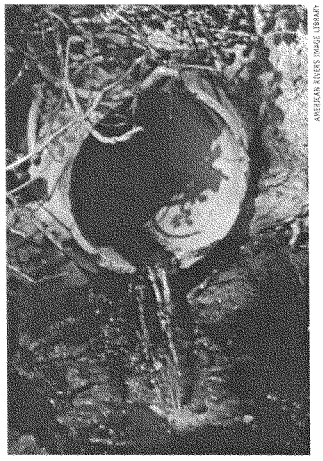
Implementation

Communication with the public regarding sewer overflows is ineffective in Virginia. Environmental groups mostly hear about spills from citizens that notice a fish kill or other indications of a pollution event.[124] The breakdown in communication stems from several sources. First, VDH, which receives notification of spills from DEQ, often fails to take any action to protect public health.[125] When press releases are issued, they are rarely printed and few people see them.[126] The public is consequently unaware of most spills.

Despite the ineffectiveness of public notification regulations, portions of Virginia's reporting system work well. POTW owners and operators are well aware of the reporting requirements and follow the guidelines diligently. Most cases of non-reporting occur when owners are unaware of spills.[127] In addition, there are well-established lines of communication between DEQ and VDH for reporting sewer overflows, and there is a strong working relationship between the agencies.[128] Strong interagency communication is ineffectual if neither the DEQ nor VDH use the information to inform the public, however.

Analysis and Opportunities

Sewage pollution is a major problem in Virginia, and well publicized spills such as the 17 million gallon overflow at Washington D.C.'s Blue



AMERICAN RIVERS IMAGE LIBRARY

Plains sewage treatment plant into the Potomac River in 2006 have stirred public interest in the matter.[129] The state needs to respond to public concern and improve its public notification regulations. As Virginia reconsiders its public notification procedures, it must expand its outreach methods. The state should institute a requirement to notify downstream public water supplies, improve posting of recreational waterways and directly communicate with the public to alert them of the dangers of sewage pollution. A routinely updated website would allow many residents to avoid contact with polluted waters.

Maryland

Strong notification regulations and effective implementation.

State Requirements

Maryland has strong public notification requirements for sewer overflows. Maryland's new notification regulations, which went into effect in 2005, were required by earlier state legislation that mandated stronger reporting of SSOs.[130] In addition to state law, the impetus for new regulations resulted from pressure by environmental groups and a desire for stronger regulations from Maryland Department of the Environment (MDE) staff, who previously had to rely on voluntary reporting to the agency.[131] The current reporting and notification requirements are comprehensive and cover any discharges of raw, diluted or partially-treated wastewater.

Under the new regulations, all wastewater system operators must report any sewage discharges into state waters to MDE and the local health department within 24 hours.[132] The initial telephone report must provide comprehensive information on the spill including the date, location and cause of spill, as well as steps taken to mitigate the impact of the spill and whether public notification has occurred. Within five days of telephone notification, the owner or operator of the plant in question must submit a written report to MDE and health officials.[133]

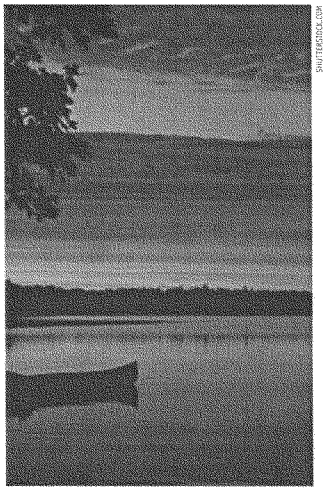
Maryland regulations require the wastewater system operator to directly notify the public within 24 hours any time a spill poses a threat to human health or is over 10,000 gallons.[135] Public health officials can waive public notification requirements if they decide they are unnecessary in a given case. When notification is required, the owner or operator must place a public service announcement or paid advertisement in a daily newspaper, radio station or television station. Public health officials can also require operators to post signs at affected waterways where they consider there to be a threat to human health. Wastewater system operators must also directly notify downstream establishments with vulnerable populations such as day care centers, schools or hospitals. If a spill is less than 10,000 gallons and does not pose a health threat, operators can instead notify the public through quarterly or annual reports, reports included in water bills or a website. The owner or operator must also monitor affected waters after the spill and provide sample results to MDE within 14 days.[136]

Implementation

Maryland's strong notification regulations benefit from effective implementation. There has been a significant increase in reporting of large overflows since the new regulations have been put in place, and most spills are reported and

Some Counties Take the Lead

Ultimately, each Maryland county health department determines how it will notify the public and whether it will surpass the minimum requirements. Anne Arundel County, on the Western shore of the Chesapeake Bay, has an exemplary notification program that includes email alerts, a regularly updated website and a phone hotline. The county public health department issues beach closures or health advisories depending on the size of the spill and uses the above methods as well as local media involvement to inform affected communities. Anne Arundel also has fliers which community service agencies may use in door-to-door notification campaigns.[134] The whole state could benefit from such rigorous regulations.



appear in local media outlets.[137] MDE draws generally positive remarks for its performance on sewer overflow reporting and notification issues.[138] It remains unknown, however, what percentage of spills are detected and reported. The only method of ensuring that owners/operators are complying with the regulations is to follow up on reports of spills from citizens and environmental groups. MDE has only assessed penalties for non-compliance with reporting regulations one time.[139] However, MDE has inadequate staff and funding to increase enforcement.[140] While increased resources could improve enforcement, most agree that notification in Maryland is fairly good.[141]

Analysis and Opportunities

While Maryland's notification requirements encompass all types of sewage releases and are a step in the right direction, there are a number of ways they could be strengthened. Maryland residents could benefit from the use of email, website or phone alerts of sewage overflows. These could significantly strengthen outreach to the public and improve citizens' ability to avoid contact with untreated sewage. MDE maintains a list of CSOs, SSOs and bypasses for the past five years on its website, but it is not updated quickly enough to protect public health.[142] Maryland could also strengthen its notification regulations by requiring annual reports from each wastewater treatment plant and pre-notification of spills prior to wet weather events. While current regulations are protective of public health, they could be better.

Iowa

Notification requirements currently under consideration, but none currently in existence.

State Requirements and Expected Changes

Iowa has virtually no formal reporting and notification requirements at present beyond federal requirements to report bypasses within 24 hours and to report overflows as part of monthly discharge monitoring reports.[143] Owners and operators are not required to contact the media, notify the public, or post signs at all outfalls. However, Iowa is a unique state in which reporting and notification practices exceed requirements of state law. In practice, owners and operators report some spills to the Iowa Department of Natural Resources (DNR) and even notify downstream drinking water intakes.[144] When the DNR receives a report of a spill that threatens public health, they often notify downstream water intakes and public health departments if the owners or operators have not. The majority of the time DNR also puts a story on the newswire.[145] None of these actions are required by state regulations or law, however. While not a statewide requirement for SSOs, certain CSO communities with a history of sewage spills into recreational waters are required to keep signs posted at outfalls in compliance with national CSO policy.[146]

The DNR is currently in the process of writing new regulations, and is expected to formulate rules later this year defining the actions field

offices must take when they receive a report of a sewage spill. The full body of regulations defining the reporting and public notification responsibilities of POTW owners will likely not be finished for a year or more.[147] Officials expect that new rules will require treatment plant owners to report SSOs within 12 hours of becoming aware of them, but do not expect that the new rules will address CSOs or posting at outfalls for any type of sewer overflow. State officials are focusing on reducing CSOs rather than improving public notification.[148]

Implementation

The DNR is one of the few agencies that notify the public of sewer overflows in the absence of regulations requiring such action. Reporting and public notification are increasingly gaining visibility among state regulators, and the rule revision process has the potential to formalize the measures currently implemented by the DNR. The need for better public notification is gaining traction following a spate of sewage bypasses in the spring of 2007.

Analysis and Opportunities

It is difficult to gauge how successful Iowa has been at protecting citizens from sewage pollution. The near-complete lack of reporting and notification guidelines is certainly alarming. This is tempered somewhat by the fact that officials sometimes notify the media and downstream users when they become aware of sewage spills despite the lack of regulations or outside pressure to do so.

Iowa is essentially starting from scratch in building a public notification program. A formalized system that ensures communication between owners/operators and state environmental officials, mandates media alerts, and defines the circumstances under which downstream users are notified would greatly strengthen the state's ability to protect public health. Including stronger posting requirements, email notification of spills and annual reports from treatment plants would further add to the state's fledgling program. This upcoming rulemaking process presents an immediate opportunity to create a robust program.

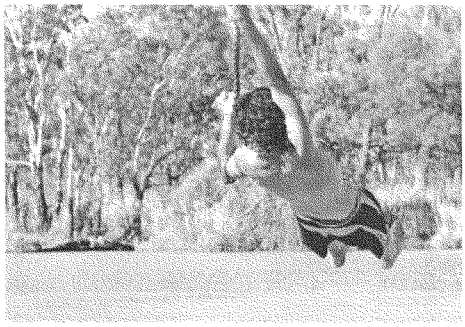
Oregon

Basic notification requirements with inconsistent implementation.

State Requirements

Oregon has separate reporting and notification requirements for SSOs and CSOs. All non-CSO communities are required to report spills by telephone within 24 hours to the Department of Environmental Quality (DEQ) during normal business hours and to the Oregon Emergency Response System (OERS) at other times.[149] In practice, most reports are received in less than 24 hours.[150] The speed of notification to the state following a spill depends on the season. In winter, wet weather causes frequent overflows, most of which are diluted by stormwater, and POTW workers wait until morning to notify officials. In summer, when spills are not related to wet weather and have higher pathogen concentrations,[151] workers alert officials as soon as they are aware of a spill.[152] In every case, they must also follow up with a written report within five days.[153]

NPDES permits for sanitary sewer systems state that Oregon DEQ may require owners and operators to notify the public of overflows through posting at affected sites, news releases or paid announcements on radio or television.[154] DEQ requires public notification on a case by



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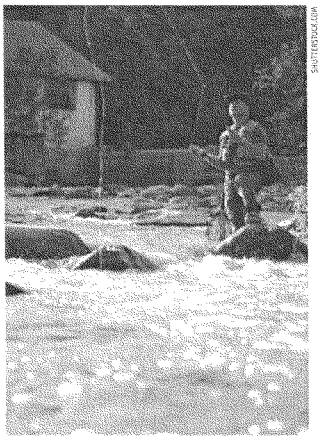
case basis when they deem there is a threat to public health. In practice, all spills near coastal beaches trigger notification and posting based on BEACH Act regulations, while inland spills trigger public notification when they are close to recreational waters or during low flow conditions.[155] While it is not written in NPDES permits, downstream public water intakes are regularly notified of spills by the POTW, DEQ, OERS or sometimes all three.[156]

Public notification and reporting requirements for Oregon's three CSO communities vary from permit to permit. One CSO community, Corvallis, had not had an overflow for six years prior to this winter's extreme storms and flooding, while Portland has the largest number of CSOs, and Salem has a small number of overflows every year.[157] Portland has strong notification guidelines, as mandated by a legal agreement in 1991 that required the city to reduce CSOs and notify the public.[158] From mid-May to mid-October, when the river alert program is in effect, the city opens hinged flip-down CSO warning signs, and sends alerts to the media.[159] The city also maintains a River Alert Hotline with recorded messages about



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overflow alerts and sends CSO alerts via email to interested residents. In the winter, there is a blanket CSO advisory because of frequent overflows, and CSO warning signs are kept open.[160] Contact with the Willamette River is discouraged for the entire season.

Implementation

There is considerable disagreement between DEQ and community groups over the effectiveness of public notification. Enforcement officers maintain that they are very active in visiting the sites of spills and ensuring that the regulations are followed. They further note that papers regularly publish overflow notices and that municipalities are very cooperative in working with DEQ to fulfill public notification guidelines.[161] Environmental advocates in parts of the state note that they rarely see notices of sewer overflows, and many consider notification to be inadequate.[162] Some also note that enforcement is lacking in rural areas, where DEQ has fewer resources and employees.[163]

More broadly, DEQ has been criticized for a failure to clamp down on polluters. A 2005 EPA review of Oregon's NPDES program finds a lack of enforcement actions associated with SSOs and notes that DEQ is overly reliant on mutual agreements with extended timeframes to reduce noncompliance.[164] The report confirms that the quality of permits and enforcement is inconsistent across the state, but also notes that the NPDES permit program needs additional resources to fulfill its mandates.

Analysis and Opportunities

Public notification of sewer overflows in Oregon is characterized by inconsistency. While it is very strong in certain areas, it seems to be lacking in rural regions. DEQ needs to ensure that public notification regulations are implemented consistently across the state. They could also benefit from expanding the use of phone hotlines and the internet to alert residents of sewage pollution. The basic elements of a successful program are in place, but increased enforcement is essential to realize their full potential.

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WASHINGTON

Successful informal policies for SSOs but little notification for CSOs.

State Requirements

Washington State has a unique system of public notification for SSOs that relies on personal relationships with treatment plant owners and operators rather than legal requirements. Basic reporting requirements for SSOs are written into NPDES permits, which require owners of sanitary sewer systems to report overflows to the Department of Ecology (DOE) by telephone within 24 hours and follow up in writing within five days.[165] The written report must contain a description of the overflow including the duration and volume of the spill as well as actions taken to prevent future spills.[166] In addition, any overflows that affect shellfish areas require immediate notification to the regional Ecology office and the Department of Health's shellfish number.[167]

DOE maintains that the public is regularly notified of SSOs despite the fact that public notification is not required by law or written into NPDES permits. DOE often asks owners and operators to contact the media, health officials or downstream communities after spills. Posting at overflow outfalls follows a similarly informal pattern. Inland outfalls with frequent overflow problems are regularly posted.[168] Only coastal waters must be posted by law, under requirements set by the federal Beach Environmental Assessment and Coastal Health (BEACH) Act.[169]

Reporting of CSOs is handled differently from SSOs. All owners and operators of CSSs are required to submit annual reports detailing their overflows, but are only required to report individual CSOs when they are caused by a mechanical failure or some other unusual circumstance rather than wet weather.[170] NPDES permits for municipalities with a history of overflows, such as Bremerton, require the permittee to contact local health officials.[171] Public notification of CSOs varies depending on the permit, and while newer permits include basic notification guidelines such as posting at outfalls, others do not,[172] in violation of EPA's Nine Minimum Control measures, which require all combined sewer systems in the country to inform citizens of CSOs.[173] DOE does not require other public

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notification measures for CSO communities, although a number of facilities contact the media voluntarily or use internet and email notification.[174] The DOE is recommending that others follow suit, but has yet to require any of these measures in permits.

Implementation

It is unclear how effective DOE has been in implementing public notification for SSOs. Ecology officials maintain that they have been successful due in large part to an emphasis on visiting treatment plants and building relationships with the staff.[175] They note that the combination of personal relationships and substantial fines when POTWs fail to report spills has encouraged compliance. This is difficult to confirm, as public attention has focused more on CSOs. Community members note that DOE favors the business community at times by issuing weak fines and not enforcing some cases of non-compliance.[176]

Public notification of CSOs is inadequate at present. While some municipalities with CSSs have signs at outfalls, there is very little media coverage and the public is mostly unaware of the problem.[177] Environmental groups have sent comments to the Department of Ecology requesting that they install signs at outfalls and implement newspaper and email notification for CSOs.[178] As yet, DOE has failed to adopt a consistent state-wide approach to inform the public of CSOs and comply with federal law governing CSO control.

Analysis and Opportunities

While Washington has built a partially successful notification program despite lacking a legal grounding, there are a number of changes that could strengthen the existing program and increase its consistency. It is unclear whether the public notification methods are implemented evenly across the state, and codifying the practice of contacting public health officials, notifying downstream communities and contacting the media would help ensure consistent practices throughout Washington. There is greatest room for improvement in the CSO communities that violate federal law by failing to notify residents of CSOs. Strengthening the regulations by making voluntary reporting to the media mandatory, and expanding the use of web and email notification would allow a greater number of citizens to avoid contact with polluted waterways.

CONCLUSION

The rising tide of sewage polluting our waterways poses a significant health threat to the American public and the ecosystems on which they depend. Reducing the volume of sewage pollution requires innovative approaches and a significant investment of resources to meet the needs of a growing population while protecting the public's right to a safe and healthy environment. In the interim, as sewers continue to overflow on a regular basis, citizens have a basic right to know when it is unsafe to swim or play in local streams, rivers, and lakes. It is essential that all Americans are informed of sewage contamination in their waterways so that they may protect themselves and their families. Timely information is a powerful first line of defense.

To improve the public's access to information about sewage spills, state and federal notification requirements must be improved. Stronger federal requirements such as those proposed by the Clinton administration and in proposed federal legislation would establish a minimum standard that all states must meet. This would provide an enforceable and consistent baseline that states may not fall below, providing a safety net for all Americans. Given the complete lack of public notification in a number of states examined in this report, such a minimum standard is essential. States should also be encouraged to implement more stringent notification policies using the outreach methods that best suit the characteristics of their population as highlighted throughout this report. Taking action on both state and federal levels is the best way to ensure that all Americans will know when they can safely use local waterways and will promote accountability and transparency that will ultimately help drive a reduction in sewage pollution.

Timely information is a powerful first line of defense.

ENDNOTES

1 American Society of Civil Engineers, *Report Card for America's Infrastructure* http://www.asce.org/reportcard/2005/page.cfm?id=35.

2 Dan Tevlock, *Sewage Spill a Main Concern in Spotsylvania*, Freelance Star (May 20, 2007) http://fredericksburg.com/News/FLS/2007/052007/05202007/284791/index_html?page=1.

3 U.S. EPA, *Report to Congress: Impacts and Control of CSOs and SSOs*, Office of Water EPA 833-R-04-001 (2004) at 4-22

4 Ibid.

5 U.S. EPA. *Notice of Proposed Rulemaking, National Pollutant Discharge Elimination System (NPDES) Permit Requirements for Municipal Sanitary Sewer Collection Systems, Municipal Satellite Collection Systems, and Sanitary Sewer Overflows* (2001).

6 Adapted from Rose et al., *Microbial Pollutants in Our Nation's Water: Environmental and Public Health Issues* (1999) and U.S. EPA *Experts Workshop on Public Health Impacts of Sewer Overflows* (2002).

7 See e.g. U.S. EPA, *A Screening Assessment of the Potential Impacts of Climate Change on Combined Sewer Overflow (CSO) Mitigation in the Great Lakes and New England Regions*, DRAFT Report, EPA/600/R-07/033A (2006).

8 Right to Know Perspective, Center for Progressive Reform, http://www.progressivereform.org/perspectives/right.cfm.

9 OMB Watch, Toxics Release Inventory Background http://www.ombwatch.org/article/archive/241?TopicID=2.

10 Right to Know Perspective, Center for Progressive Reform, http://www.progressivereform.org/perspectives/right.cfm.

11 Debra Barayuga, *Warning Over Sewage Spill was Late, Suit Says*, Honolulu Star-Bulletin.com (April 10, 2007) http://starbulletin.com/2007/04/10/news/story05.html.

12 See appendix A for methodology on how states were selected.

13 U.S. EPA, *Report to Congress: Impacts and Control of CSOs and SSOs*, Office of Water EPA 833-R-04-001 (2004) at 4-22.

14 Ibid. at 4-26. Note that an earlier unpublished report estimated this number at 311 billion gallons.

15 U.S. EPA, *Causes of SSOs*, http://www.epa.gov/npdes/sso/control/causes.htm.

16 40 CFR 122.41(l) (6) & (7)

17 See U.S. EPA, *Advanced Notice of Proposed Rulemaking, NPDES Permit Requirements for Municipal Sanitary Sewer Collection Systems, Municipal Satellite Collection Systems, and Sanitary Sewer Overflows* (Jan. 4, 2001) (withdrawn Jan. 20, 2001) (hereinafter Proposed SSO Rule).

18 40 CFR 122.41(l) (6) (i).

19 Ibid.

20 33 U.S.C. §1342, CWA §402

21 See U.S. EPA, *Water Quality and Technology Based Permitting*, http://cfpub.epa.gov/npdes/generalissues/watertechnology.cfm?program_id=45.

22 Killam, Gayle, *The Clean Water Act Owner's Manual*, 2nd ed. River Network (2005).

23 40 CFR 122.41(l) (7).

24 Proposed SSO Rule.

25 U.S. EPA, *Report to Congress: Impacts and Control of CSOs and SSOs*, Office of Water EPA 833-R-04-001 (2004) at 4-13 and 4-18.

26 U.S. EPA, *Combined Sewer Overflows Guidance for Nine Minimum Controls*, Office of Water EPA 832-B-95-003 (1995) <http://cfpub.epa.gov/npdes/cso/guidedocs.cfm> (last updated 2002).

27 Ibid.

28 Ibid.

29 Environmental Integrity Project, *Backed Up, Cleaning Up Combined Sewer Systems in the Great Lakes* (2005) <http://www.environmentalintegrity.org/pubs/EIP_BackedUp_fnl.pdf>.

30 Ibid.

31 Ibid.

32 Clean Water Action & Clean Water Fund of Michigan, *Wasting Our Water Wonderland* (2001) <http://www.cleanwaterfund.org/pdf/cso_mi.pdf>.

33 *Montgomery Environmental Coalition v. Costle*, 646 F.2d 568 at 592 (D.C. Cir. 1980).

34 59 Fed. Reg. 18,6888 (Apr. 19, 1994) and 33 U.S.C. §1342(q), Clean Water Act §402(q).

35 59 Fed. Reg. at 18,691.

36 U.S. EPA, Report to Congress on Implementation and Enforcement of the CSO Control Policy, Office of Water EPA 833-R-01-003 (2002) at 2-12.

37 See e.g. Environmental Integrity Project, *Backed Up, Cleaning Up Combined Sewer Systems in the Great Lakes* (2005) http://www.environmentalintegrity.org-pubs/EIP_BackedUp_fnl.pdf at 7, and Stoner, N. *Green Solutions for Controlling Combined Sewer Overflows*, Natural Resources & Environment 21(4), American Bar Association (2007), and case study of Kentucky below.

38 Jason Pulliam, *Sewage Spills onto Park Avenue*, Des Moines Register (Apr. 14, 2007), http://desmoinesregister.com/apps/pbcs.dll/article?AID=/20070413/NEWS704130384/-1/SPORTS01.

39 Richard W. Gullick et al., *Developing Regional Early Warning Systems for U.S. Source Waters*, Journal of the American Waterworks Association (June 2004).

40 U.S. EPA, Beach Monitoring and Notification http://www.epa.gov/waterscience/beaches/grants/.

41 Note that programs of the Great Lakes States were evaluated by U.S. PIRG in their 2005 report, *Sewage Warning! What the Public Doesn't Know About Sewage Dumping in the Great Lakes* http://www.uspirg.org/uploads/Ua/Qv/UaQvrW3J9Snu-UtufivHbsw/sewagedumping.pdf. The Environmental Integrity Project also discusses public notification in Great Lakes states in their 2005 report *Backed Up: Cleaning Up Combined Sewer Systems in the Great Lakes* http://www.environmentalintegrity.org/pubs/EIP_BackedUp_fnl.pdf . Florida's public notification program was evaluated by Clean Water Fund Florida in a 2005 report, *Are We Wading in Waste? Sewage Overflow in Florida* http://www.cleanwaterfund.org/pdfs/SewageReportFinal.pdf.

42 ADEM Administrative Code Chapter 335-6-6-.12 (l) 6. (ii)

43 ADEM Administrative Code Chapter 335-6-6-.12 (l) 6. (iv)

44 ADEM Administrative Code Chapter 335-6-6-.12 (l) 6. (v)

45 Communication with Jim Gressiano, Chief of the Municipal Section of the Water Division, ADEM (12/15/2006)

46 Ibid

47 *For the People, By the People: A Blueprint to Reform the Alabama Department of Environmental Management* (2006). http://www.alabamarivers.org/ADEM%20Blueprint2006.pdf.

48 Communication with Jim Gressiano, Chief of the Municipal Section of the Water Division, ADEM (12/15/2006)

49 Ibid.

50 Ibid.

51 *U.S. v. The Board of Water and Sewer Commissioners of the City of Mobile, AL* (Civ. No. CV-99-00595-CB-S) http://www.epa.gov/compliance/resources/decrees/civil/cwa/mobile-cd.pdf.

52 Communication with Nelson Brooke, Black Warrior Riverkeeper and Tricia Sheets, Cahaba River Society.

53 Ibid.

54 See *For the People, By the People: A Blueprint to Reform the Alabama Department of Environmental Management* (2006). http://www.alabamarivers.org/ADEM%20Blueprint2006.pdf.

55 Communication with Bill Noll, Unit Manager, Compliance and Enforcement East Unit, Georgia EPD (12/14/2006)

56 Ibid.

57 Georgia Administrative Code 391-3-6-.05

58 Ibid.

59 Communication with Bill Noll, Unit Manager, Compliance and Enforcement East Unit, Georgia EPD (12/14/2006)

60 Georgia Administrative Code 391-3-6-.05

61 Ibid.

62 Communication with Bill Noll, Unit Manager, Compliance and Enforcement East Unit, Georgia EPD (12/14/2006)

63 Communication with Betsy Nicholas, General Counsel, Upper Chattahoochee Riverkeeper (1/31/2007); Communication with Joe Cook, Executive Director, Coosa River Basin Initiative (1/31/2007)

64 Communication with Joe Cook, Executive Director, Coosa River Basin Initiative (1/31/2007)

65 Communication with Betsy Nicholas, General Counsel, Upper Chattahoochee Riverkeeper (1/31/2007)

66 Ibid.

67 Communication with Robin Foy, Manager, Water Pollution Enforcement Section, South Carolina Department of Health and Environmental Control (1/10/2007)

68 Form DHEC 3685

69 Communication with Robin Foy, Manager, Water Pollution Enforcement Section, South Carolina Department of Health and Environmental Control (1/10/2007)

70 Communication with Brian Wisnewski, Manager, Pollution Source Compliance Section, South Carolina Department of Health and Environmental Control (12/21/2006). The SSO reporting form asks if owners or operators if they have notified downstream users even though it is not required.

71 Communication with Robin Foy, Manager, Water Pollution Enforcement Section, South Carolina Department of Health and Environmental Control (1/10/2007)

72 Communication with Sammy Fretwell, Staff Writer, The State (2/15/2007)

73 South Carolina General Assembly, Bill H. 5307 (2001-2002) http://www.scstatehouse.net/sess114_2001-2002/bills/5307.htm.

74 Communication with Robin Foy, Manager, Water Pollution Enforcement Section, South Carolina Department of Health and Environmental Control (1/10/2007)

75 Nan Lundeen., *Greenville not in DHEC Sewer Report*, Greenville News, January 8, 2007.

76 Ibid.

77 Communication with Patrick Moore, Water Quality Project Manager, Coastal Conservation League (2/15/2007)

78 North Carolina NPDES Permit Requirements

79 Form CS-SSO: Collection System Sanitary Sewer Overflow Reporting Form, NC Division of Water Quality.

80 General Assembly of North Carolina, HB1160, Part VIII (1999).

81 North Carolina General Statutes 143-215.1C (b) 1.

82 North Carolina General Statutes 143-215.1C (b) 2.

83 North Carolina General Statutes 143-215.1C (a).

84 Communication with Larry Baldwin and Dean Naujoks, Neuse Riverkeepers (1/12/2007).

85 Communication with Larry Baldwin and Dean Naujoks, Neuse Riverkeepers (1/12/2007)

86 Communication with Hope Taylor-Guevara, Executive Director, Clean Water for North Carolina (1/11/2007) and Communication with Larry Baldwin and Dean Naujoks, Neuse Riverkeepers (1/12/2007)

87 Communication with Larry Baldwin and Dean Naujoks, Neuse Riverkeepers (1/12/2007)

88 Communication with Jeff Poupart, Unit Supervisor, PERCS Unit, North Carolina Division of Water Quality (12/15/2006).

89 Ibid.

90 Communication with Heather Jacobs, Pamlico-Tar Riverkeeper (1/25/2007)

91 Communication with Hope Taylor-Guevara, Executive Director, Clean Water for North Carolina (1/11/2007)

92 Tennessee Rules and Regulations Chapter 1200-4-5-.07, 2 (a)

93 Communication with Donald Ey, Water Pollution Control, Tennessee Department of Environment and Conservation (12/18/2006)

94 Communication with Greg Denton, Water Pollution Control, Tennessee Department of Environment and Conservation (12/18/2006)

95 Communication with Donald Ey, Water Pollution Control, Tennessee Department of Environment and Conservation (12/18/2006)

96 Knoxville Utilities Board, Sanitary Sewer Overflow Log http://www2.kub.org/AlphaPager.nsf/SSO_with-vol2006?OpenForm.

97 Knoxville Sewer Overflow Response Plan, 2004, http://www1.kub.org/newsite/epa/sorp_report.pdf.

98 Tennessee Clean Water Network v. Knoxville Utilities Board Available: http://www.tcwn.org/pdf/TCWN_Complaint-v-KUB.pdf.

99 Communication with John McFadden, Executive Director, Tennessee Environmental Council (2/7/2007)

100 Communication with Donald Ey, Water Pollution Control, Tennessee Department of Environment and Conservation (12/18/2006)

101 Communication with John McFadden, Executive Director, Tennessee Environmental Council (2/7/2007)

102 Ibid.

103 Communication with Parci Gibson, Tennessee Izaak Walton League (2/6/2007)

104 401 KAR 5:065 KPDES Permit Conditions

105 Communication with Gary Levy, SSO Coordinator, Division of Water, Department for Environmental Protection (12/14/2006)

106 Ibid.

107 Ibid.

108 Ibid. Only one consent decree has been finalized thus far.

109 Ibid.

110 Ibid.

111 *The Commonwealth of Kentucky vs. Sanitation District No. 1 of Northern Kentucky*(2005). Available: http://www.csop.com/WWPWebDocuments/Consent%20Decrees/Kentucky%20Sanitation%20District%201,%2010-12-2005%20CD.pdf

112 Sanitation District No. 1, Overflow Notification, http://www.sd1.org/wastewater/overflow.asp.

113 Communication with Judith Peterson, Executive Director, Kentucky Waterways Alliance (2/25/2007).

114 Ibid.

115 Kentucky Environmental Quality Commission, *State of Kentucky's Environment*, Ch. 2, Water Resources (2001) http://www.eqc.ky.gov/NR/rdonlyres/6F76484B-E3D5-4B72-B76E-100BC7FF38A6/0/water.pdf

116 Communication with Burt Tuxford, Stormwater/CSO Coordinator, Virginia DEQ (1/3/2007).

117 Ibid.

118 Ibid.

119 Ibid.

120 Ibid.

121 Ibid.

122 Communication with Doug Frasier, Virginia DEQ

123 Ibid.

124 Communication with Mike Gerel, Virginia Staff Scientist, Chesapeake Bay Foundation (1/30/2007)

125 Ibid.

126 Ibid.

127 Communication with Burt Tuxford, Sto8mwater/CSO Coordinator, Virginia DEQ (1/3/2007)

128 Ibid.

129 Communication with Mike Gerel, Virginia Staff Scientist, Chesapeake Bay Foundation (1/30/2007)

130 Communication with David Lyons, Chief, Enforcement Division, Maryland Division of Water (12/11/2006)

131 Ibid.

132 COMAR 26.08.10.03

133 COMAR 26.08.10.05

134 Communication with Sally Levine, Anne Arundel Department of Health (12/11/2006)

135 COMAR 26.08.10.08

136 COMAR 26.08.10.11

137 Communication with David Lyons, Chief, Enforcement Division, Maryland Division of Water (12/11/2006), Communication with Bob Gallagher, Executive Director, West and Rhode Riverkeeper (1/5/2007); Communication with Jenn Aiosa, Senior Scientist, Chesapeake Bay Foundation (1/6/2007)

138 Communication with Jenn Aiosa, Senior Scientist, Chesapeake Bay Foundation (1/6/2007)

139 Communication with David Lyons, Chief, Enforcement Division, Maryland Division of Water (12/11/2006)

140 Communication with Jenn Aiosa, Senior Scientist, Chesapeake Bay Foundation (1/6/2007)

141 Ibid.

142 Maryland Department of the Environment, Sewer Overflow Reporting Data http://www.mde.state.md.us/Programs/WaterPrograms/cso_sso.asp.

143 Iowa NPDES Permit Requirements and communication with Charles Furrey, Field Enforcement Officer, Iowa DNR (12/14/2006).

144 Communication with Dennis Ostwinkle, Chief of Enforcement, Iowa DNR (1/8/2007)

145 Sewage Pumped into Lyon County River, Sioux City Journal.com, http://www.siouxcityjournal.com/articles/2006/12/27/news/latest_news/065b2c026d23b11d86257251007d27dc.txt.

146 Communication with Charles Furrey, Field Enforcement Officer, Iowa DNR (12/14/2006); Communication with Dennis Ostwinkle, Chief of Enforcement, Iowa (1/8/2007)

147 Communication with Dennis Ostwinkle, Chief of Enforcement, Iowa DNR (1/8/2007)

148 Communication with Charles Furrey, Field Enforcement Officer, Iowa DNR (12/14/2007)

149 Oregon NPDES Permit Requirements.

150 Communication with Spencer Bohaboy, Policy Development Specialist, Surface Water Management, Oregon Department of Environmental Quality (1/22/2007).

151 U.S. EPA, *Report to Congress: Impacts and Control of CSOs and SSOs*, Office of Water EPA 833-R-04-001 (2004).

152 Communication with Spencer Bohaboy, Policy Development Specialist, Surface Water Management, Oregon Department of Environmental Quality (1/22/2007)

153 Oregon NPDES Permit Requirements.

154 Ibid.

155 Communication with Tim McFetridge, Senior Environmental Engineer, Oregon Department of Environmental Quality (1/24/2007).

156 Communication with Spencer Bohaboy, Policy Development Specialist, Surface Water Management, Oregon Department of Environmental Quality (1/22/2007).

157 Communication with Tim McFetridge, Senior Environmental Engineer, Oregon Department of Environmental Quality (1/24/2007).

158 Communication with Linc Mann, Communication Division, Portland Bureau of Environmental Services (6/28/07).

159 Portland Bureau of Environmental Services, CSO Notification http://www.portlandonline.com/bes/index.cfm?a=115425&c=41821#summer.

160 Portland Bureau of Environmental Services, 2005 News Releaseshttp://www.portlandonline.com/bes/index.cfm?a=babhga&c=dhgcb#4.

161 Communication with Tim McFetridge, Senior Environmental Engineer, Oregon Department of Environmental Quality (1/24/2007).

162 Communication with Joe Serres, Co-Director, Friends of Living Oregon Waters (2/22/2007); Communication with Phillip Johnson, Program Director, Oregon Shores (2/23/2007).

163 Communication with Joe Serres, Co-Director, Friends of Living Oregon Waters (2/22/2007); Communication with Charlie Plybon, Director of Water Quality Program, Oregon Surfrider (2/26/2007).

164 U.S. EPA, Region 10, Oregon NPDES Program Review (2005) http://yosemite.epa.gov/r10/homepage.nsf/d7b03c22cbc0843588256464006a2ff4/b0e3582d387d4b1f882564c800026f1c/$FILE/OR%20NPDES%20Report%20Final%202005.pdf.

165 Washington NPDES Permit Requirements S3-E.

166 Ibid.

167 Washington NPDES Permit Requirements S3-F.

168 Communication with Pat Bailey, Environmental Specialist, Water Quality Program, Department of Ecology (1/8/2007).

169 See Washington, Beach Environmental Assessment, Communication and Health Program http://www.ecy.wa.gov/programs/eap/beach/index.html.

170 Communication with Amy Jankowiak, Compliance Specialist, Water Quality Program, Department of Ecology (1/8/2007).

171 Ibid.

172 Ibid.

173 U.S. EPA, *Combined Sewer Overflows Guidance for Nine Minimum Controls*, Office of Water EPA 832-B-95-003 (1995) <http://cfpub.epa.gov/npdes/cso/guidedocs.cfm> (last updated 2002).

174 Communication with Amy Jankowiak, Compliance Specialist, Water Quality Program, Department of Ecology (1/8/2007).

175 Communication with Pat Bailey, Environmental Specialist, Water Quality Program, Department of Ecology (1/8/2007).

176 Communication with Heather Trim, Urban Bays Project Coordinator, People for Puget Sound (2/9/2007).

177 Ibid.

178 Ibid.

APPENDIX A

Research Methodology

American Rivers considered a number of criteria in choosing the eleven states examined in this report. Certain areas such as the Great Lakes and Florida have previously been the subject of extensive studies addressing public notification regulations. American Rivers chose the eleven states in this report in part because it has ongoing projects in the northwest and southeast. Examining an array of states across the country also allows for comparisons across very different environmental and political circumstances. By examining these states, this report fills a gap in the literature and provides a snapshot of public awareness of sewage pollution in the United States.

In conducting the research, American Rivers used a number of sources to evaluate public notification regulations. The research process consisted of three steps. We began by examining the text of relevant state laws, regulations and NPDES permits. Some states had detailed accounts of notification procedures readily available, while others had little information. This provided an initial account of the notification procedures in place. Next we conducted informal telephone interviews with officials at regulatory agencies in each state. This process allowed us to get a better sense for how the public notification regulations are implemented in each state. These conversations were also an important source of information on informal notification procedures environmental agencies regularly follow that are not formalized in state laws or regulations. Finally, we contacted a number of water policy staff at environmental organizations in each state to determine whether regulations are being followed and what changes are necessary to strengthen these programs.

While the set of questions evolved over the course of the interviews and were specific to the circumstances in each state, the following queries were used most often in interviews.

State Officials

- Do your reporting and/or public notification regulations pertain to CSOs, SSOs or blending?
- Are there any special requirements pertaining to CSOs?
- Did your state set public notification measures for CSOs as required under the 1994 EPA CSO Control Policy?

- *If there are notification requirements passed by the state legislature:* When were the requirements passed? What was the motivation? Were there environmental or public health groups involved in getting them passed? Was there any funding attached to the bill?

- Are there any public notification requirements?
- Do you notify downstream communities of overflows?
- Do you notify public health officials?
- Do you notify the media?
- Are press releases picked up by the media?
- Is there any kind of direct notification of spills through phone, email, or fax?
- Do you maintain a website with overflow information?
- Are there signs at overflow sites?
- Are POTW owners required to make annual reports about overflows during that year?

- Are there currently any efforts in the state legislature or within your agency to strengthen requirements?

- Are there any counties or municipalities going beyond the minimum requirements?

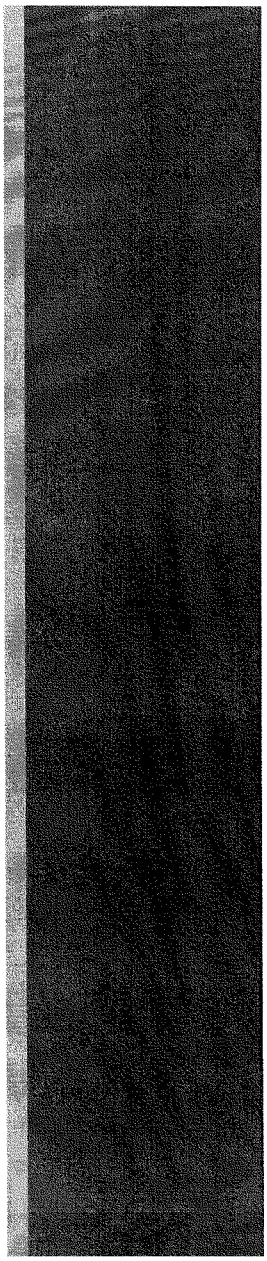
- How successful has implementation been?
- What percentage of SSOs do you think are reported?
- Have there been examples of noncompliance by POTWs?
- Are these regulations sufficiently protective of public health?
- Are additional requirements necessary?
- Are there any nongovernmental groups advocating for additional reporting requirements?

Environmental Organizations

- Is information on sewer overflows available in a timely manner?
- Does the information reach large portions of the population?
- Is it an issue the public is aware of and concerned about?
- Are there signs at outfalls or spill sites?
- Are there notices in the paper or on television?

- Do treatment plants report most spills?
- Have there been cases of non-reporting?
- Is the state environmental agency diligent in ensuring that POTWs report and do they penalize noncompliance?
- How is your state environmental agency on enforcement in general?
- Is there an incentive to change bad behavior?

- Are you or any other environmental or public health groups in the state working on sewage issues or public notification?
- What could be done to improve public notification and protect public health in your state?



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American Water Works Association

The Authoritative Resource on Safe Water SM

October 15, 2007

The Honorable Eddie Bernice Johnson, Chair
The Honorable Richard Baker, Ranking Member
House Subcommittee on Water Resources and Environment
U.S. House of Representatives
B-376 Rayburn
Washington, DC 20515

Dear Madam Chair and Ranking Member Baker,

The American Water Works Association appreciates your holding the hearing tomorrow on H.R. 2452, the Raw Sewage Overflow Community Right-to-Know Act. As providers of safe drinking water to about 80 percent of the American public, we have a keen interest in receiving timely and effective notification of events which may affect the safety of the source waters upon which we draw. Knowledge of the characteristics of those waters determines how we treat it before sending it to our consumers.

The attached statement describes areas in which we believe this act will be effective and areas in which we believe it can be improved to be even more effective. We look forward to working with your committee on these issues. Please do not hesitate to contact me if you or your staff has any questions.

Sincerely,

Tom Curtis

Deputy Executive Director

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American Water Works
Association

The Authoritative Resource on Safe Water SM

Statement
of the American Water Works Association

Regarding
The Raw Sewage Overflow Community Right-to-Know Act of 2007

Before the House Subcommittee on Water Resources
and Environment
October 16, 2007

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Statement
of the American Water Works Association

Regarding
The Raw Sewage Overflow Right-to-Know Act of 2007

Before the
House Subcommittee on Water Resources and Environment

October 16, 2007

The American Water Works Association (AWWA) appreciates the opportunity to comment on the bill before you today, the Raw Sewage Overflow Community Right-to-Know Act of 2007. We are particularly supportive of a properly balanced provision for notice to downstream drinking water utilities in the event of a sewage overflow, as such overflows can be important to public health.

AWWA is an international non-profit, scientific and educational society dedicated to the improvement of drinking water quality and supply. Our 60,000 members include more than 4,700 utilities that supply roughly 80 percent of the American people with safe drinking water. Many of our utility members also provide sewer and sanitation services. Our members are aware of the Environmental Protection Agency's proposed policy concerning peak wet weather discharges from Publicly Owned Treatment Works (POTWs) serving separate sanitary sewer collection systems. Our testimony today is based in part on similar comments made to the EPA in the course of its rulemaking process.

AWWA understands and applauds the intent of the bill, H.R. 2452, although we have important reservations about a number of details. We know that downstream water utilities can be affected by sewer overflows, and we support quick and effective notification to those downstream drinking water utilities that are close enough to the sewage outfall that they could be significantly affected.

Having said that, we also recognize that some of the provisions in the bill could be interpreted as requiring an unnecessary, unrealistic degree of monitoring and/or reporting, and impose burdens on POTWs that are disproportionate to any real public benefit. For example, the bill could be read to require public notice within 24 hours for any discharge in any amount at any location, followed within five days by a written report to EPA and the state on that discharge, even if such discharge does not reach the waters of the United States or has no public health significance. We believe that would be excessive, impose a significant monitoring/reporting burden on wastewater utilities, and offer very little if any public benefit.

An important improvement to the bill would be to clarify what is meant by "sewage overflow." This term should be should be distinguished from "blended wet weather flows." Blended wet weather flows, that is, flows that receive a pre-determined combination of primary and secondary treatment during wet weather, receive full disinfection and therefore do not pose the pathogen risk that the bill addresses. Such

blended flows should be viewed as an acceptable treatment strategy during severe wet weather.

AWWA does believe that POTWs that discharge to receiving waters that serve as a source of drinking water downstream deserve particular attention in the NPDES permit process. The discharging utility and the permitting agency should work together to identify downstream drinking water utilities proximate enough to be significantly affected by typical expected overflow conditions. The Source Water Assessments that were previously required to be performed under the provisions of the Safe Drinking Water Act Amendments of 1996 provide a source of information upon which initial identification of public water systems might be made, along with other sources of information. Those drinking water systems that could be significantly affected by an overflow or bypass should receive immediate notice in the event of a sewer overflow. Once the event has passed, however, there may be little value in reports on the volume of material that overflowed, etc., at least for downstream public water systems.

The basis for notification to proximate downstream public water systems is simple. Sewer overflows can result in downstream drinking water treatment plants receiving much higher than normal levels of pathogens, such as *Cryptosporidium*, *Giardia lamblia*, other protozoa, bacteria, and viruses. These organisms present a very serious public health threat, and can cause death and grave illness if ingested in drinking water. Drinking water utilities that rely upon surface water or ground water under the influence of surface water must treat their water to remove or inactivate these organisms through various processes, including filtration and disinfection. Utilities rely on a robust, multi-barrier approach to drinking water treatment, and it is unlikely that people would be sickened by the water delivered by a well-operated drinking water treatment plant, even if there were a proximate overflow upstream.

However, in order to comply with a complex family of drinking water regulations, including regulations covering the natural byproducts of disinfection, drinking water treatment plants must "optimize" their water treatment. Such optimization includes using disinfectant chemicals in a manner so as to not use too much or too little disinfectant. If atypically large levels of pathogenic organisms affect a public water supply as the result of an overflow or treatment bypass upstream, and no notification is given to the downstream public water system, the result could be that the utility temporarily uses too little disinfectant, considering the abnormal condition of its source water. In such a case, the health of the downstream community could be significantly affected.

We strongly recommend that EPA require proactive notification from wastewater utilities to proximate downstream public water systems whenever an overflow or treatment bypass occurs that could significantly affect public water systems downstream. Such downstream water systems should be identified in advance for each POTW to limit the burden on POTWs and to prevent meaningless notification of inconsequential events to people far downstream. The bill's standard of requiring notification to those downstream public water systems where public health would be imminently and substantially endangered seems appropriate.

As part of a permit or permit renewal, regulators should identify in advance those public water systems that are likely to be imminently and substantially affected – this would largely be a function of distance downstream and volume of flow – and those public

water systems should be immediately notified in the event of a sewer overflow that could affect them. It is better that downstream public water systems be forewarned and forearmed so that they can immediately adjust treatment parameters as needed to protect public health, than to ask POTWs or regulators to take time during an overflow emergency to identify who needs to be notified.

It is critical that this notice be proactive and that it commence immediately upon wastewater utilities becoming aware of the presence of a significant overflow or bypass. We do not believe that EPA's proposal of notification within 24 hours is adequate. The method of notification is also important and could be specified in more detail. Simply putting notification on a website will not be sufficient, as that would require downstream public water systems to constantly monitor the websites of upstream POTWs. To be effective, this notification should be automated and rely upon practices or technologies such as list servers, automated e-mail distribution, automated telephone messaging, automated paging, automated fax notification, etc.

Thank you for this opportunity to comment on this important issue. This bill could help improve our ability to ensure protection of the public's drinking water supply. We would be happy to work with the Committee to help make a number of improvements to the bill, including changes to make sure that all its requirements are proportional to actual public health benefits, and we look forward to working with you as the legislation advances.

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Questions for Right to Know Hearing

QUESTIONS FOR NACWA/MMSD

1. You indicated that Milwaukee has an excellent monitoring system. How many of NACWA's members have effective monitoring systems in place? (If many, then shouldn't be a further burden, if few, go to next question)
2. How do wastewater treatment systems maintain capacity and prioritize maintenance and upgrades without the use of a monitoring system *or* methodology to alert owners and operators when there's a spill or other problem?
3. The legislation does not require any one type monitoring system, leaving systems to choose what type of methodology or technology is most appropriate. I recognize your concern that monitoring could be costly, but the bill doesn't mandate any certain technique, leaving communities the flexibility to choose what is most effective and cost efficient. EPA estimated the costs of the proposed SSO rule in 2001, which included many components in addition to notification, as $6,000 a year for a collection system serving 7,500 people. Aren't costs such as these low compared with those for overflow clean up, possible penalties, and public health outbreaks?
4. How would more consistent monitoring help POTWs reduce costs from overflow clean ups and associated penalties?
5. Can you target monitoring to certain parts of your system that are most likely to overflow?
6. If we agree that there should be some degree of monitoring and notification in a sewage treatment system, how should that requirement best be defined and implemented?
7. Many municipalities, including your own, are already doing a good job of notifying the public about sewer spills. Why shouldn't a program like yours be the norm instead of the exception – clearly public notification is possible and practical?
8. You say that most utilities are already doing notification, but several reports have found that this isn't the case. How do you respond to that?

QUESTIONS FOR EPA:

1. How does EPA characterize the public health and environmental effects of sewage pollution?
2. Do you think it's a good idea to warn people when high levels of air pollution threaten their health? Why, then shouldn't we be warned when there is raw sewage in our waterways?
3. Why isn't the public notified of sewer overflows currently?
4. Is it possible to eliminate sewer overflows? Are we expected to eliminate sewer overflows in the near future? How long will it take to address the infrastructure shortfalls that we have now? Given that reducing sewer overflows is going to be a costly and time-consuming process, shouldn't we at least warn the public about the danger while we are cleaning up this problem?

5. If we, as a modern and wealthy nation, can't find the funds to treat all of our sewage, shouldn't we at least tell people about sewage spills so they can avoid getting ill?
6. Is global warming expected to increase the frequency of overflows? Won't that add to the already considerable health burden and make notification more valuable?

QUESTIONS FOR Katherine Baer:

1. Is notification really necessary? Can you give me any concrete examples of people going in contaminated water because they weren't told about an overflow?
2. How do you know that there isn't effective notification in most places and that federal legislation is needed to fill this gap? Can you give me some examples of good or bad public notification?
3. Some of the health effects sound alarmist. What evidence is there to back up the sewage-cancer link?
4. Why focus on public notification rather than actively trying to reduce the amount of sewage pollution going into this nation's waterways?

QUESTIONS FOR PUBLIC HEALTH WITNESS

1. Is there any doubt about the connection between sewer overflows and human health impacts?
2. Do you have any more recent estimates of how large the impacts on public health are either on a national or regional level?
3. Already there are major public health groups in support of this bill. The American Public Health Association, the National Association of City and County Health Officials, the National Association of Boards of Local Health, and Physicians for Social Responsibility are all on record supporting this legislation. In what ways do you see this bill as useful step towards addressing the public health impacts of sewage and reducing sewage pollution?

CALIFORNIA ASSOCIATION of SANITATION AGENCIES

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October 15, 2007

The Honorable James L. Oberstar
Chairman
Committee on Transportation and Infrastructure
U.S. House of Representatives
Washington, D.C. 20515

Dear Chairman Oberstar:

On behalf of over 100 publicly owned wastewater systems serving over 30 million citizens of California, the California Association of Sanitation Agencies (CASA) is pleased to provide the Committee on Transportation and Infrastructure with our comments on H.R. 2452, the "Raw Sewage Right-to-Know Act". CASA remains committed to ensuring the health, safety, and security of the citizens, waters and environment that we serve. H.R. 2452 takes a step towards addressing the critical importance of notifying state and federal authorities, as well as the public, of the health hazards that can accompany sanitary and combined sewer overflows. However, California laws and regulatory requirements already require comprehensive reporting and notification of state and local authorities in the event of a sewage spill, which are explained below. These include a statewide permit for publicly owned collection systems adopted by the State of California, through the State Water Resources Control Board, in May 2006 that requires electronic reporting of all sanitary sewer overflows (SSOs). As such, CASA is concerned that H.R. 2452 will create yet another layer of new requirements that are unnecessary in California, and therefore we have several suggestions to ensure that the significant investments that have been made in existing programs such as those in California are neither undermined nor superceded by a new overlay of federal requirements.

By way of background, it is important to point out that sanitary sewer overflows are often, but not always, preventable through the proper operation, maintenance and management of wastewater collection system infrastructure. However, vigilance by POTWs cannot prevent all such events, such as those caused by acts of Nature (e.g. earthquakes), intentional or negligent acts by third parties (e.g. vandals or contractors working in streets), and other similar occurrences. Therefore, CASA recognizes that appropriate emergency response, reporting and notification procedures are necessary in the event that SSOs do occur to ensure the protection of public health and the environment.

California's framework for sanitary sewer overflows includes four components. First, the California Health and Safety Code requires *immediate notification* of the local health

officer by any person who causes or permits any sewage to be discharged in a water of the state. *Cal. Health & Safety Code § 5411.5(a).* This notification is typically accomplished by telephone notification to the local health officer responsible for the area in which the SSO occurs. The local health officers are in turn responsible to immediately determine whether notification of the public is required to safeguard public health and safety, and to carry out public notification by posting notices or through other appropriate means. *Cal. Water Code § 13281(a)(3).* Additionally, local health officers may receive reimbursement for the necessary and reasonable costs incurred to mitigate the threat of contamination and to protect the health and safety of the public, including the costs for investigations, water sampling and analysis, and for public notification. *Cal. Health & Safety Code §5412.5.*

Second, in recognition of the need for implementation of additional measures to ensure both full reporting of SSOs by the collection system community and that collection systems were being managed appropriately, in May 2006 the State Water Resources Control Board adopted a statewide permit applicable to all publicly owned collection systems of greater than one mile of sewer. The main features of this statewide program are an electronic reporting system for all SSOs and development and implementation of Sewer System Management Plans (SSMPs) by all collection systems. For the first time, this will provide the State and the public with comprehensive and consistent data about the sewage spills that occur in California, and will allow analysis of trends over the long term as the SSMPs are adopted and implemented by agencies across the state. The State Water Resource Control Board's permit includes a Monitoring and Reporting Program (MRP) that establishes extensive monitoring, record keeping, reporting and public notification requirements. These requirements compel POTWs to report sewer overflows in an expedient and comprehensive fashion. For example, POTWs must immediately report to the State a sewer overflow's location via GPS coordinates, volume in gallons, cause, source, time of discovery, destination, and estimated end time. The MRP also ensures reporting requirements do not interfere with containing sewer overflows immediately by providing that reporting must be administered so long as it does not substantially impede clean-up or other emergency measures. The mandatory information required by the MRP is then updated in a statewide database.

Third, all NPDES permits for POTWs contain Standard Provisions, which must be consistent with federal permitting requirements promulgated by the U.S. Environmental Protection Agency. *40 CFR §122.41.* For instance, these regulations require mitigation and prevention of any discharge which has a reasonable likelihood of adversely affecting human health or the environment and require proper operation and maintenance of all facilities and systems of treatment and control (and related appurtenances) which are used to achieve compliance. Federal regulations also require reporting of any noncompliance that may endanger health or the environment within 24 hours orally, and within 5 days in writing. Many NPDES permits also contain specific sewage spill reporting requirements that go beyond these general standard provisions.

Fourth, state law also requires that sewage spills to waters of the state be reported immediately to the state Office of Emergency Services, which is required to immediately

notify the appropriate Regional Water Quality Control Board and the local health officer. This notification requirement is in addition to the other spill notification requirements noted above.

We are confident that the combination of laws and permits implemented in California meet or exceed the monitoring, reporting, and public notification requirements furnished in H.R. 2452. CASA encourages you to ensure that H.R. 2452 is a relevant contribution to addressing SSOs by rewarding – rather than ignoring – those States such as California that have already adopted adequate programs. We suggest that the bill be amended to provide assistance to states to implement programs.

H.R. 2452 contains a definition of "sanitary sewer overflow" that is extremely broad, which CASA believes goes far beyond the traditional reach of the Clean Water Act. Overflows that do not reach waters of the United States or backups into buildings should not be included within the purview of the Clean Water Act, and are more appropriately addressed at the local level because these occurrences may impact public health, but by definition do not affect water quality. Therefore, CASA strongly recommends that the last sentence of the definition on p. 3 (lines 19-25) be modified to simply say "Such term includes overflows or releases of wastewater that reach waters of the United States."

H.R. 2452 also requires POTWs to institute and utilize methods, technologies, or management programs to identify sewer overflows in a "timely manner." Current available flow, pressure and leak and level sensing technologies would be prohibitively expensive to install at every point in a sewer system where sewer overflows occur. CASA would oppose any effort to require POTWs to install technology throughout their system, and would welcome further clarification as to the intent of this provision.

H.R. 2452 further requires POTWs to notify the Administrator or State permitting authorities within 24 hours of the time POTWs discover a sewer overflow. While initial oral or electronic reports to local public health authorities should be required as soon as feasible for spills that reach waters of the U.S., particularly in cases where the public may engage in contact recreation activities, it is generally unnecessary to notify federal or state water quality authorities immediately, unless they are going to take on "first responder" responsibilities, which at least in California is not the case. Otherwise, notification of a long list of other agencies is burdensome for local agencies that are first responders, and may detract from their ability to adequately abate spills and ensure protection of public health. Furthermore, timeframes for filing written reports should be extended to a minimum of 15 days of the conclusion of the spill. This amount of time is sometimes necessary to allow a POTW to be fully informed as to the causes, nature, and impact of the sewer overflow (and in some extraordinary cases, a full investigation may take much longer than 15 days).A 5-day timetable is not sufficient in complex cases, and may result in incomplete analysis. In addition, copies of reports submitted to other regulatory agencies under requirements similar to those in H.R. 2452 should be allowed to satisfy this requirement.

In conclusion, CASA hopes that this explanation of existing sewage spill reporting and notification programs in California is helpful to the Committee, and looks forward to the opportunity to work with the Committee on refinements to H.R. 2452 over the coming months.

Sincerely,

Catherine Smith

Catherine Smith

Executive Director

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